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MARCH 9, 1946

Railway Age

Founded in 1856

WINE LOCKS

ON MORE THAN 390,000 CARS

ENGINEERED TO STOP LOSS OF LADING

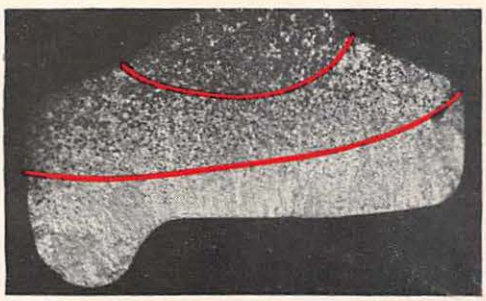
THE WINE RAILWAY APPLIANCE CO.
TOLEDO, OHIO

WINE

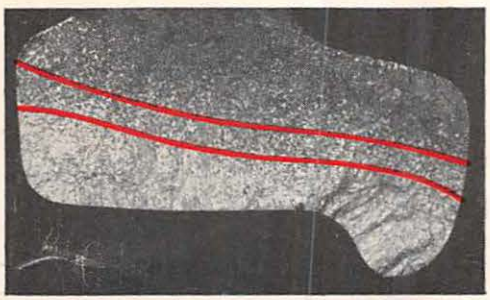
Last Month we told about...

AN IMPROVEMENT in mottle zone control of chilled car wheels

has been effected and is now part of the procedure of AMCCW members. It results from present-day methods of manufacture which now permit more gray iron to be present at areas where resistance to shock and impact is demanded. The depth of chill remains the same, but the demarcation between chill and gray iron is sharper, with a narrowing of the mottled area.

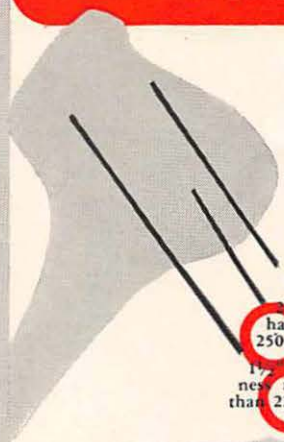


PREVIOUS NORMAL CHILL
with dispersed mottle and chill distribution



PRESENT NORMAL CHILL
with improved demarcation between chill and gray iron

THE PROOF OF IT is in new Brinell Tests


6/16" below the tread, Brinell hardness cannot be less than 352.
2" below tread at rim, Brinell hardness cannot be greater than 250.
1½" below the tread, Brinell hardness in the throat cannot be greater than 225.

now standard for wheels made by AMCCW members.

Two new changes demonstrate more thoroughly the present-day complete protection of the wheel's critical area.

These are (1) a *Rim* hardness test at the rim 2" below the tread, and (2) a reduction in acceptable maximum flange hardness from 250 to 225 in the Brinell test made 1½" below the tread. The limitation on maximum hardness of material backing flange rim and tread assure impact strength, and resistance to the development of seams.

Maintaining the former limitation of minimum hardness of 352 at the tread surface continues to guarantee long uniform wear and maintenance of rotundity throughout the life of the wheels.

Instead of Brinell 250, the very latest figure is
Brinell 225

Instead of Brinell 225, the very latest figure is
Brinell 200

Before the ink was dry on the above advertisement new and more rigid tests have been adopted.

ASSOCIATION OF MANUFACTURERS OF CHILLED CAR WHEELS
230 PARK AVENUE, NEW YORK 17, N. Y. • 445 NORTH SACRAMENTO BOULEVARD, CHICAGO 12, ILL.
Organized to Achieve: Uniform Specifications — Uniform Inspection — Uniform Product

4458

Published weekly by Simmons-Boardman Publishing Corporation, 1309 Noble Street, Philadelphia, Pa. Entered as second class matter, January 4, 1933, at the Post Office at Philadelphia, Pa., under the act of March 3, 1879. Subscription price $6.00 for one year U. S. and Canada. Single copies, 25 cents each. Vol. 120, No. 10.

52 YEARS of Service

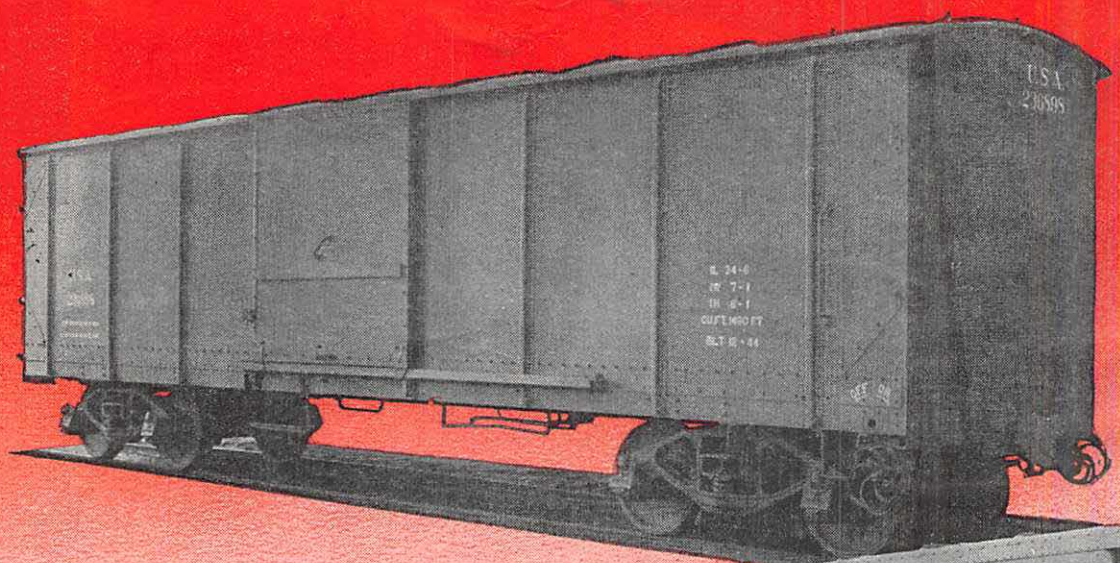
QUALITY

MINER FRICTION DRAFT GEARS

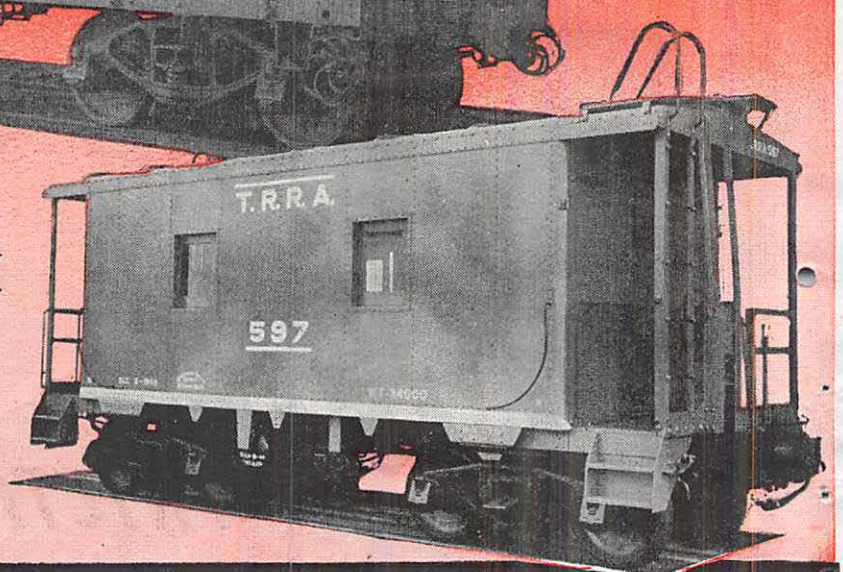
W.H. MINER, INC. CHICAGO

MT. VERNON CARS

in Production *Today*—
for Tomorrow's Traffic



30-Ton, 34' 6" Single-Sheathed Boxcar Built for the United States Army



30-Ton, 19' 5¼" Caboose Built for the Terminal Railroad Association.

MT. VERNON CAR DIVISION:
Complete Line of Freight Cars.

LOCOMOTIVE DIVISION:
Diesel, Diesel-Electric, Electric, Steam, and Fireless Steam Locomotives.

PROCESS EQUIPMENT DIVISION:
Complete Line of Chemical, Food, and Petroleum Refinery Equipment.

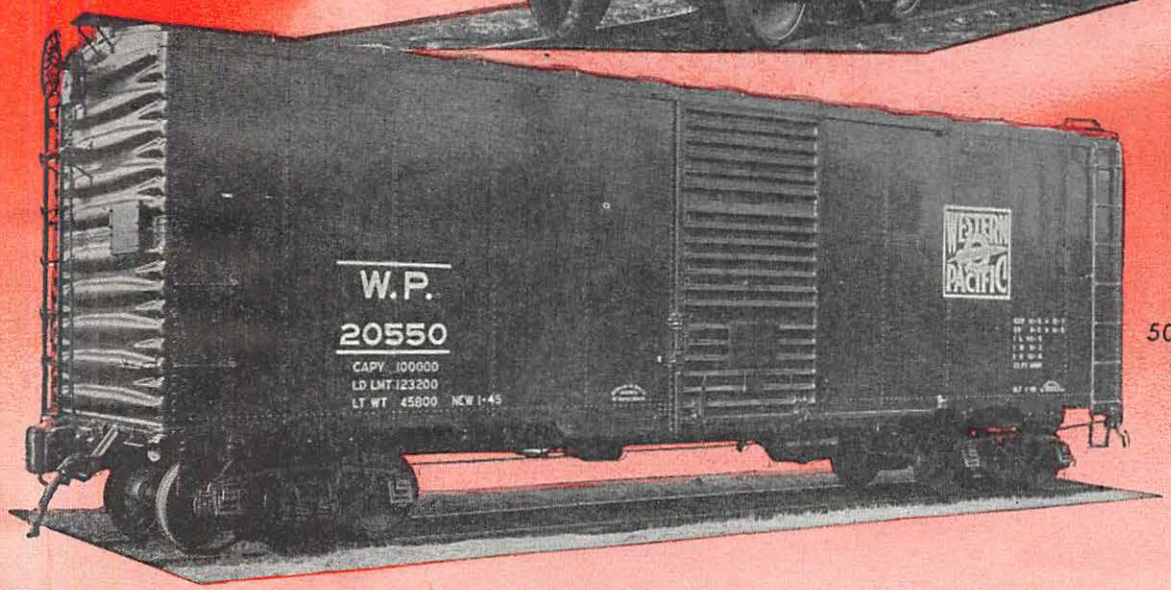
QUIMBY PUMP DIVISION:
Screw, Rotex, Centrifugal, Chemical Pumps.

MT. VERNON

MT. VERNON,
Division of **H. K. PORTER**

Oliver Bldg., Pittsburgh
Chauncy Bldg., Boston
Walbridge Bldg., Buffalo
McCormick Bldg., Chicago
Carew Tower, Cincinnati
Book Bldg., Detroit

50-Ton, 50' 6" Steel Sheathed Automobile Boxcar with End Doors and Auto Loaders.



50-Ton, 40' 6" Steel Sheathed Boxcar.

Since 1890—when Mt. Vernon built its first freight car—the years have been marked by constant progress in design and construction of equipment for railroad and private car owners. Cars recently completed, some of which are shown here, are outstanding examples of the Mt. Vernon tradition of quality workmanship.

CAR MFG. CO.

ILLINOIS

COMPANY, Inc.

Petroleum Bldg., Los Angeles
340 Thomas St., Newark, N. J.
50 Church St., New York

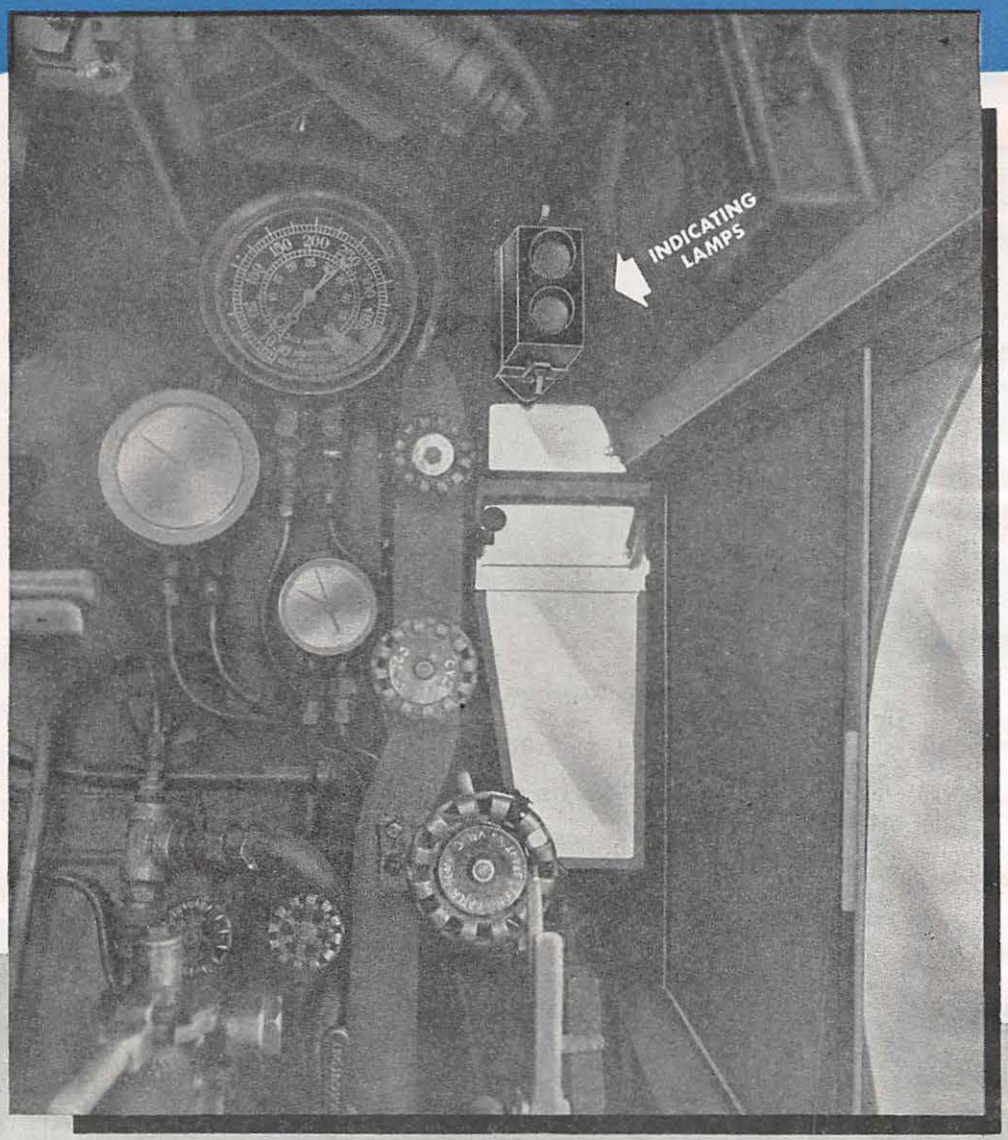
Girard Trust Bldg., Philadelphia
Monadnock Bldg., San Francisco
1507 M St., N. W., Washington

MT. VERNON CARS

PORTER "Better Built" Equipment
Established 1866

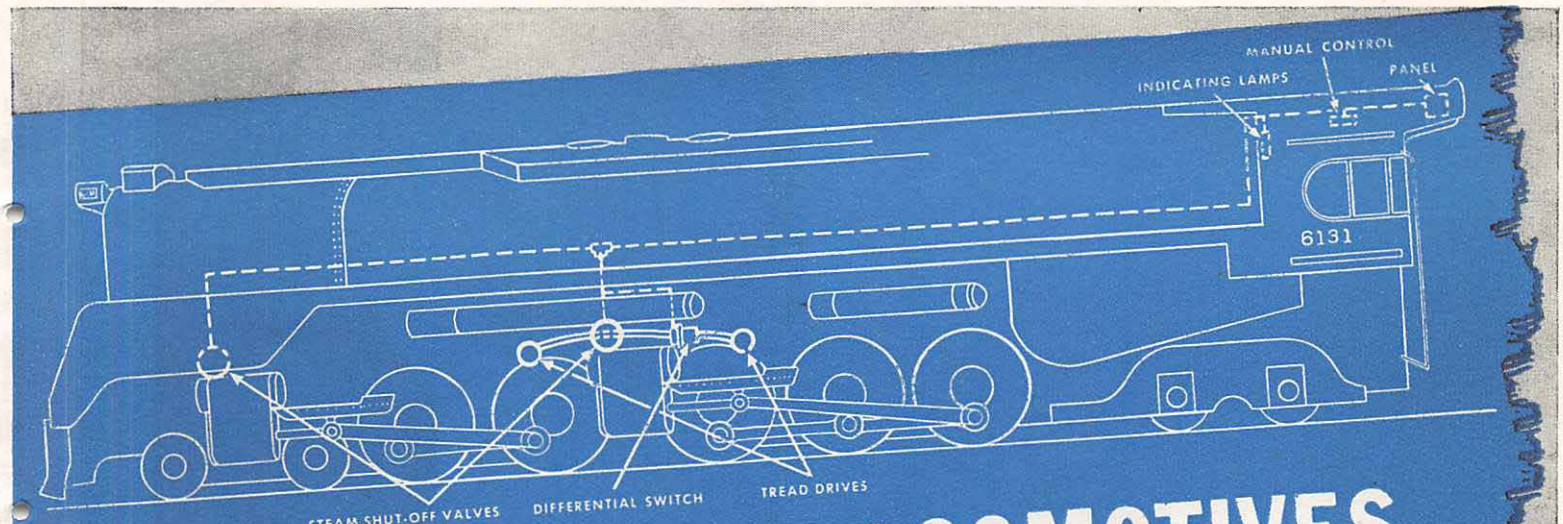
NOW...

THE AMERICAN BRAKE SHOE CONTROLLER applied to the PENNSYLVANIA RAILROAD



• Top or bottom indicating lamp lights when slipping occurs.

4133



POWERFUL Q-2 LOCOMOTIVES

The American Brake Shoe Company takes pride in announcing that the American Brake Shoe Controller has been employed as the actuating means to automatically prevent slipping on the 26 new Q-2 locomotives recently placed in service by the Pennsylvania Railroad.

The American Brake Shoe Controller —

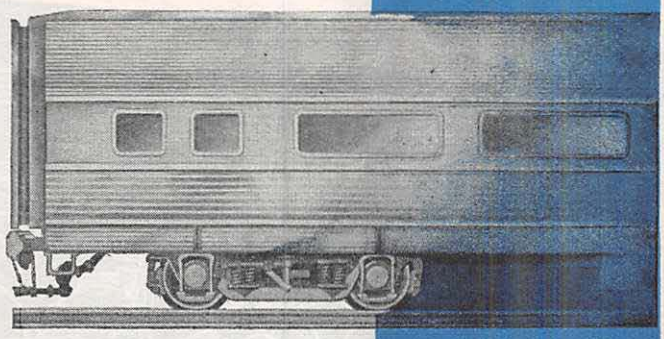
1. Detects slipping of either engine within one half revolution of drivers.
2. Confines control to slipping engine, leaving power of other engine unaffected.
3. Corrects slipping by automatic shut-off of the steam supply.
4. Makes it unnecessary for locomotive engine man to shut off throttle.
5. Reduces damage to tire, rail and engine parts.

This development is the result of cooperative effort between the Mechanical Engineering Department of the Pennsylvania Railroad and the Engineering Department of the American Brake Shoe Company.

The Mechanical Department of the Pennsylvania Railroad has developed an automatic steam shut-off valve for these Q-2 locomotives which works in combination with the American Brake Shoe Controller.

AMERICAN
Brake Shoe
COMPANY

BRAKE SHOE AND CASTINGS DIVISION
230 Park Ave., New York 17, N. Y.



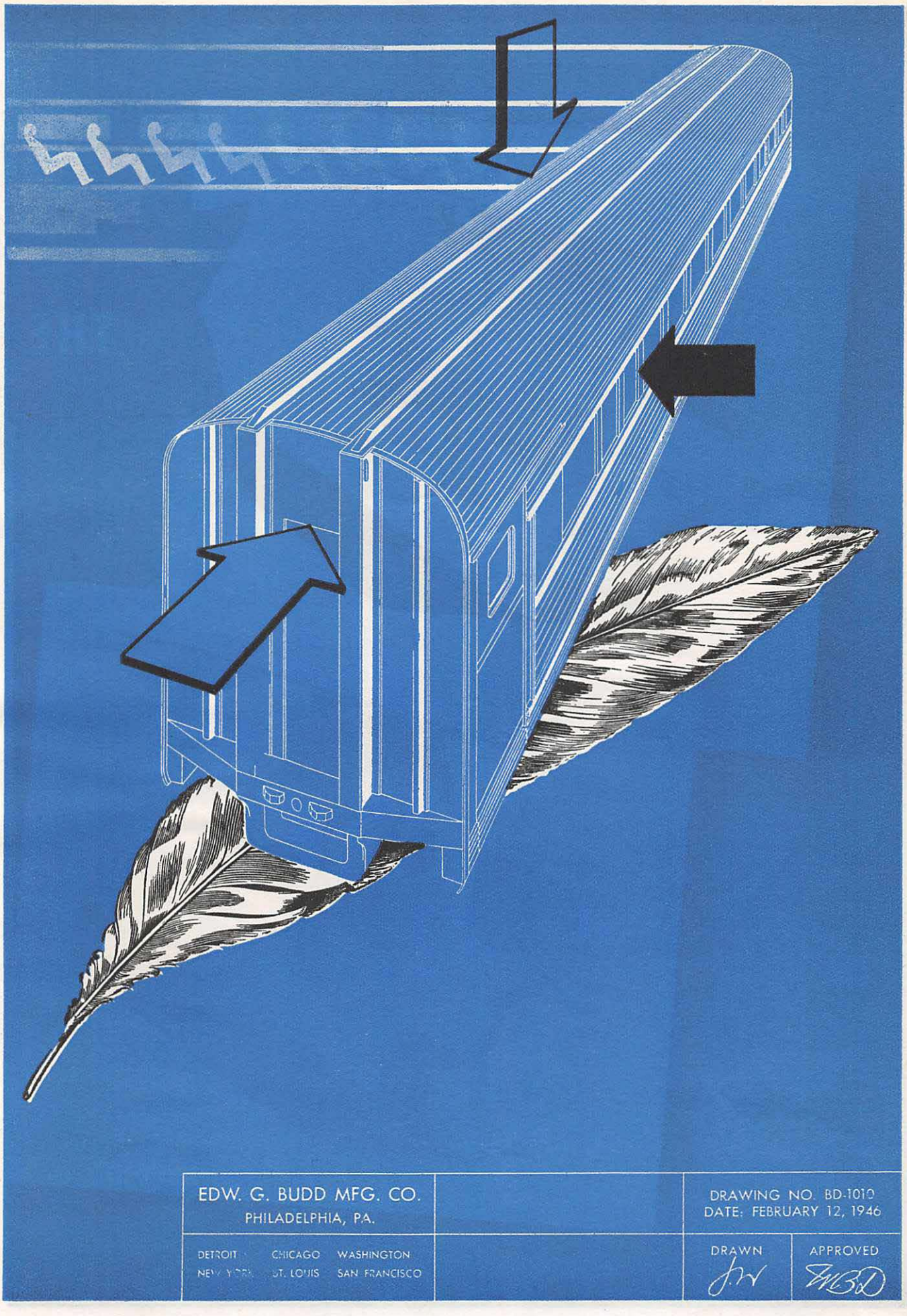
BUDD FORMULA FOR SAFETY

$$\frac{\text{more strength}}{\text{less weight}} = \textit{more safety}$$

In case of impact the forces are function of weight and speed squared.

High speed operation requires greater strength. Budd provides this strength, with minimum weight, by building with high tensile stainless steel, the strongest metal known suitable for structural purposes. Stainless steel is twice as strong as low alloy steels and three times as strong as carbon steel. This weight and strength advantage is why Budd cars have strength and safety that cannot be equaled by railroad cars of the same weight built of any other suitable structural material. Edward G. Budd Manufacturing Company, Philadelphia 32, Pa.

Budd


EDW. G. BUDD MFG. CO.
PHILADELPHIA, PA.
DETROIT CHICAGO WASHINGTON
NEW YORK ST. LOUIS SAN FRANCISCO
DRAWING NO. BD-1010
DATE: FEBRUARY 12, 1946
DRAWN
APPROVED

Courtesy — Pullman-Standard Car Manufacturing Company

"light touch" OF PLYMETL

Transforms Deadweight into Greater Passenger Comfort

Approximately 3,000 square feet of Haskelite Plymetl was used for the partitions in the first Duplex Roomette which Pullman-Standard built. Plymetl was also used for interior doors.

The Duplex Roomette is an achievement in space conservation. It was designed to furnish passengers comfortable, convenient, luxurious travel at exceptionally low cost. Here, Plymetl's light weight combined with high strength transformed dead-weight into passenger comfort and satisfaction.

Check these figures:

For approximately 3,000 sq. ft. of partitions per car:
Hollow steel partitions would have weighed.....14,400 lbs.
½" UVU Plymetl (aluminum 2 sides) weighed..... 5,100 lbs.

Plymetl partitions saved 9,300 lbs. in a single Duplex Roomette over the standard hollow steel partition. If, instead of Plymetl, hollow-aluminum partitions had been used, the weight of the car would have been increased by about 1500 lbs.

For your new cars or for the reconditioning of your older type coaches SPECIFY PLYMETL.

HASKELITE

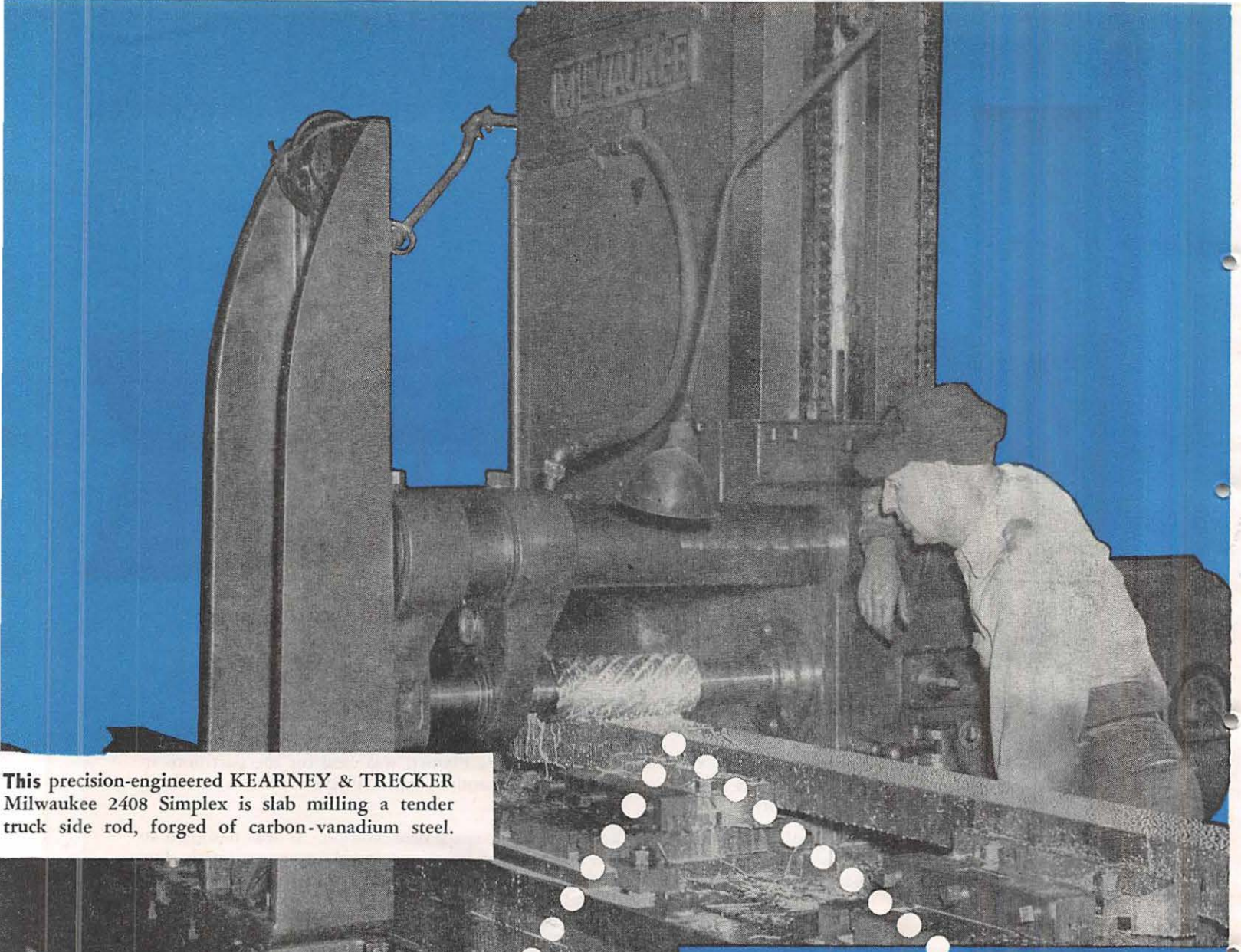
Plymetl

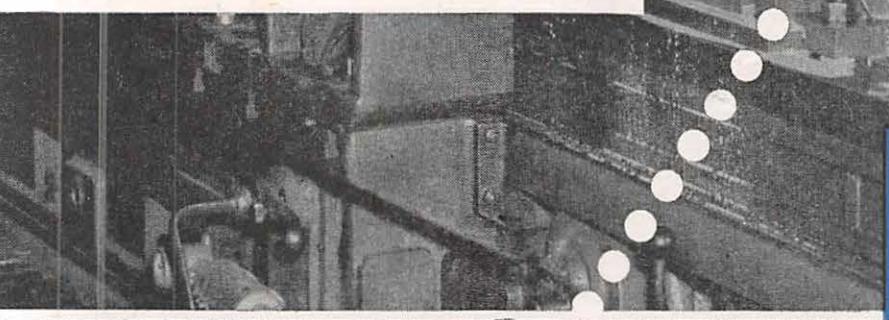
HASKELITE MANUFACTURING CORPORATION
Dept. RR3 **Grand Rapids 2, Michigan**

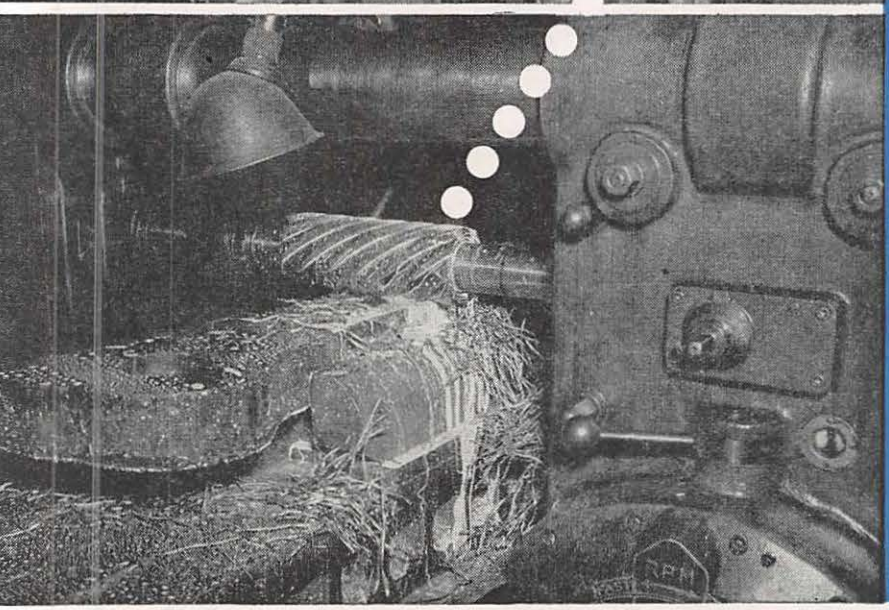
New York Chicago Detroit Cleveland St. Louis Philadelphia

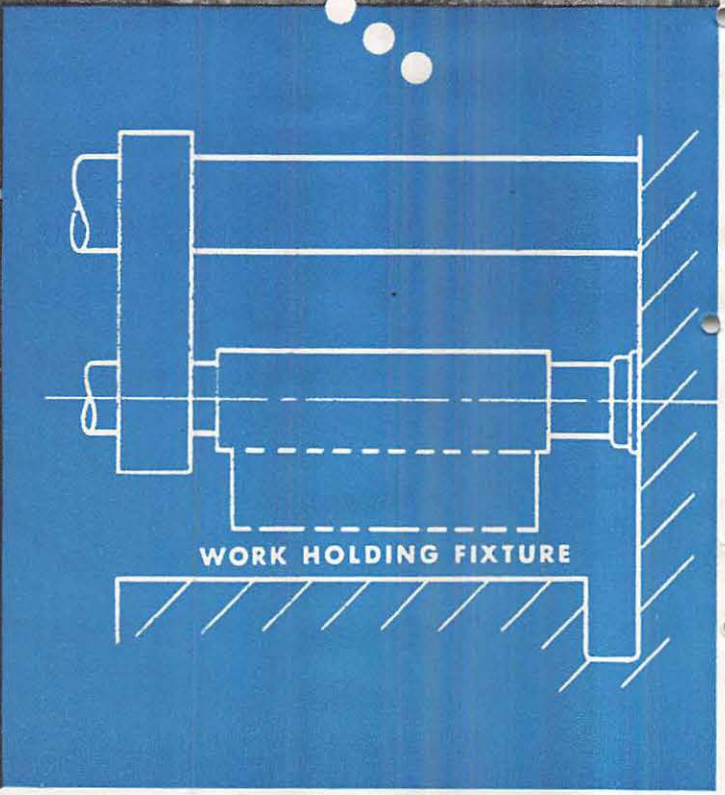
Canada: Railway & Power Engineering Corporation, Ltd.

This precision-engineered KEARNEY & TRECKER Milwaukee 2408 Simplex is slab milling a tender truck side rod, forged of carbon-vanadium steel.









Spindle speed is 45 rpm and table feed 4⅛ ipm. Depth of cut — ¼" to ⅜" rough milling and ⅛" finish milling. The slab mill cutter is 4½" in diameter and 12" long.

Here is the drawing of the job. The 2408 Simplex is ideal for milling operations on piston rods, shoes and a wide variety of other railway shop milling jobs.

Tailor-made For RAILWAY SHOP MILLING

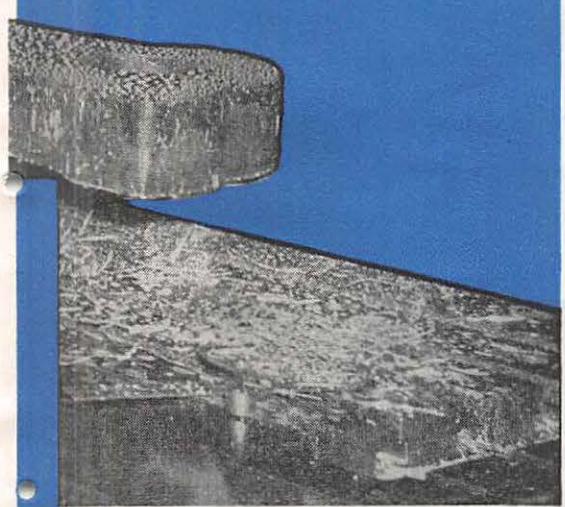
Ideal for a wide variety of railway shop jobs — the KEARNEY & TRECKER Milwaukee 2408 Simplex Fills the bill and cuts it, too!

You'll find the Kearney & Trecker 2408 Simplex is built right to beat tight work schedules. Precision engineered and constructed with an extra measure of ruggedness, it's tailor-made for milling operations on piston rods, shoes, wedges, valve and reverse gear parts, drive rods, and a host of other railway shop milling jobs.

Here are just a few 2408 Simplex features that make it outstanding for this kind of work:

1. **Massive bed-type** construction provides support for the table throughout its travel, assures maximum rigidity.
2. **Spindle** is supported not only at the ends but in the center as well. This three-bearing spindle construction, pioneered by Kearney & Trecker, guarantees uniform cutting at all times.
3. **Wide spindle** speed range 16 to 1000 rpm, plus a wide table feed range, ½″ to 20″ per minute, give you a combination to fit a broad variety of milling jobs. Other ranges available to fit your particular requirements.
4. **Husky** 20 hp spindle drive motor together with a 7½ hp feed motor provide all the power necessary — even for the deepest bites.

For the full story of the 2408 Simplex, write Kearney & Trecker Corporation, Milwaukee 14, Wisconsin, or contact your nearest Kearney & Trecker district office or dealer.

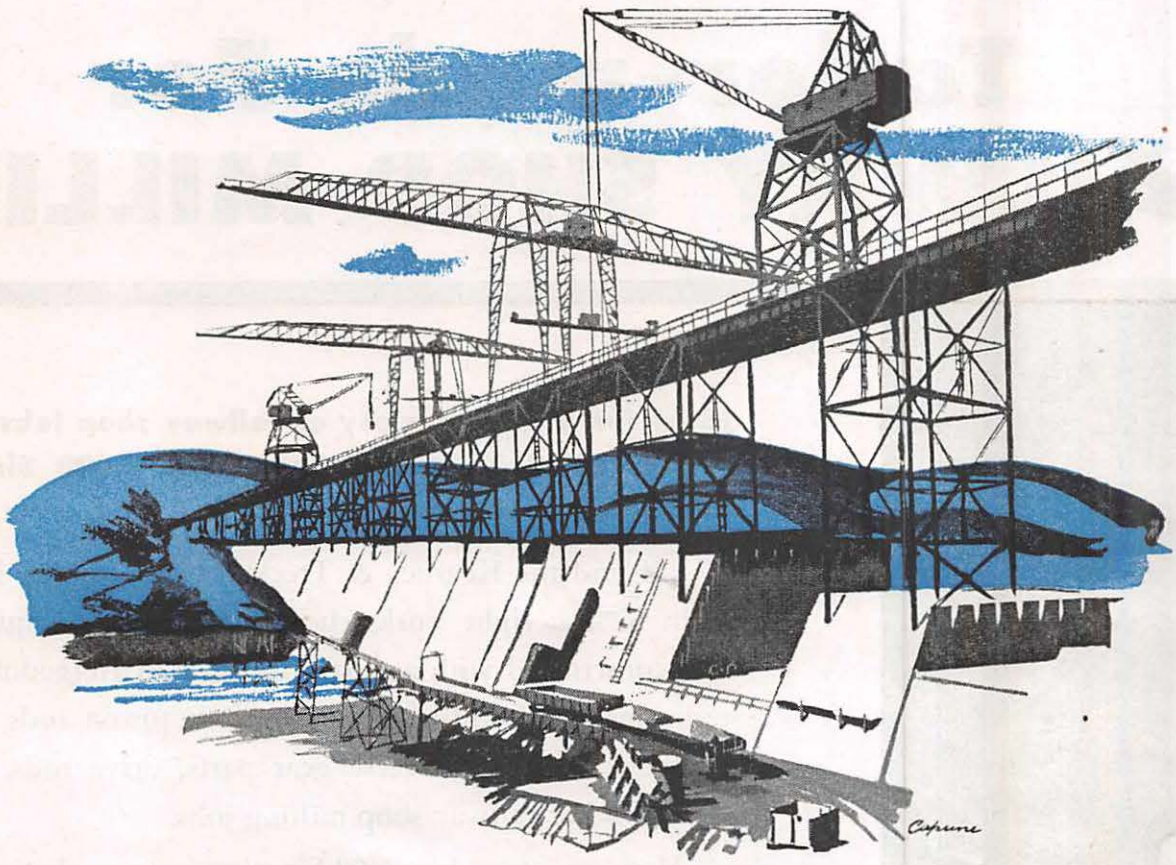


Photos Courtesy Missouri Pacific R.R.

FREE! Two of the most helpful books on milling ever published. Book 1, Right and Wrong in Milling Practice. Book 2, The Milling Machine and Its Attachments. Write for them today!

KEARNEY & TRECKER
CORPORATION

Builders of a Complete Line of Standard and Special Milling Machines



SPECIALISTS IN STEEL

Engineers and craftsmen of Consolidated Steel Corporation know their business well. The unusual steel structures shown here are examples of the diversity and precision of their work.

Should your plans call for new construction, consider the capable services of Consolidated Steel. Immediate attention will be given your inquiry. Address Consolidated Steel, Los Angeles 22, California; or Orange, Texas.

LEADERS IN THE WEST AND SOUTH

Consolidated Steel

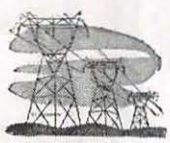
FABRICATORS
ENGINEERS
CRAFTSMEN

INDUSTRIAL BUILDINGS

DRUM GATES

STEEL BRIDGES

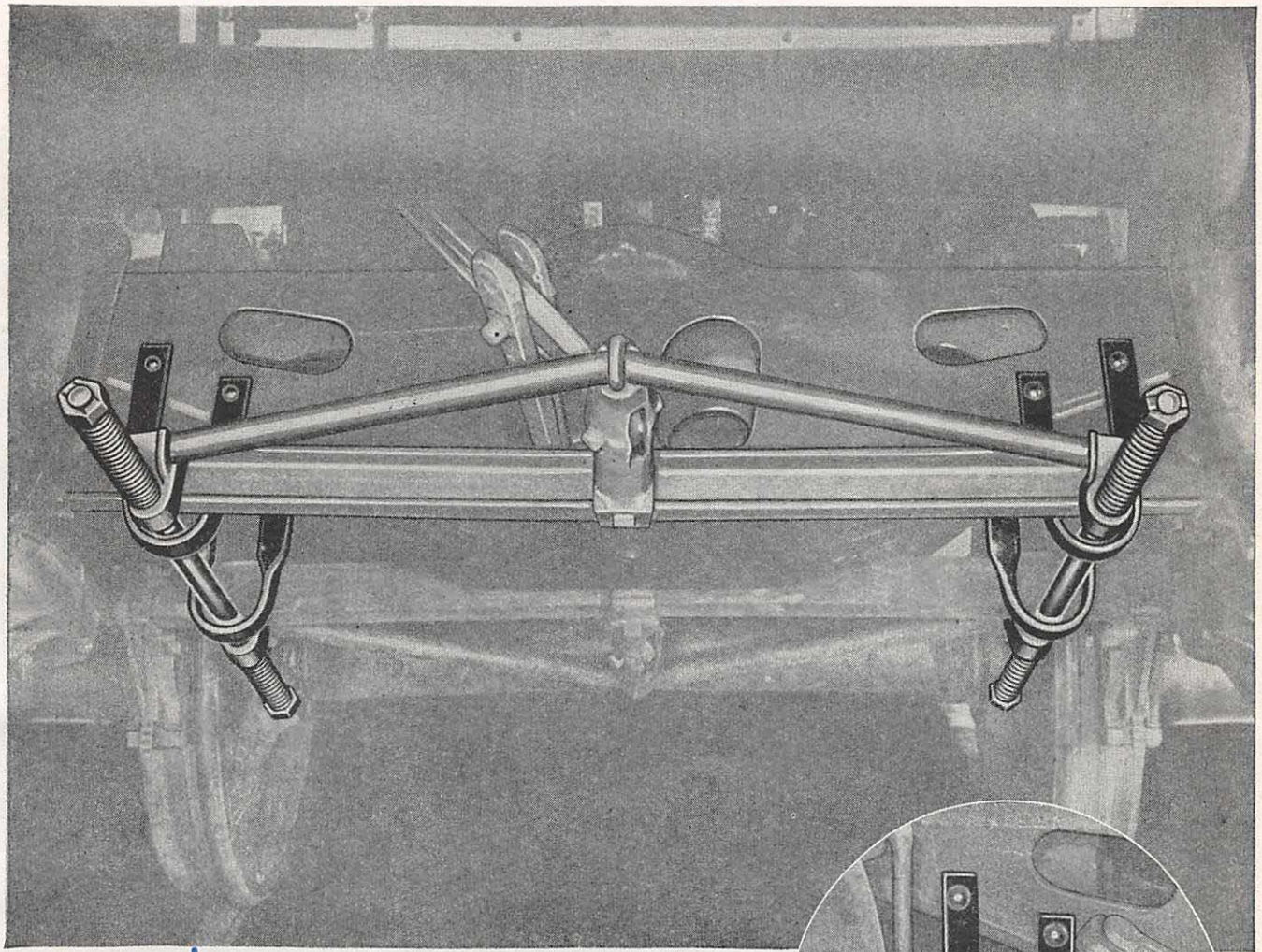
PETROLEUM EQUIPMENT

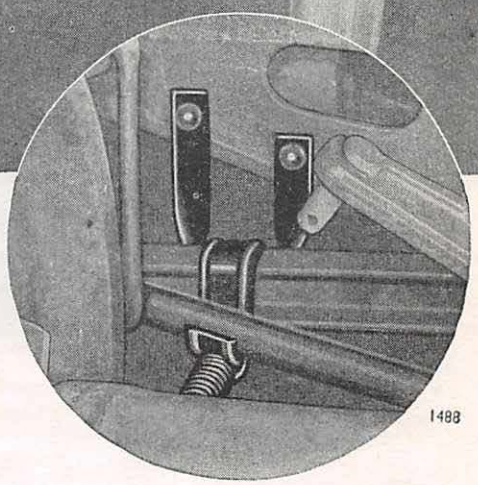


TRANSMISSION TOWERS

SPECIAL GRIPCO BRAKE BEAM SAFETY SUPPORT

For Spring-plankless Trucks





1488

The Special Gripco Brake Beam Safety Support is hung under the brake beams, and can be used on any spring-plankless truck, including those with l-o-n-g spring travel. The Special Gripco Brake Beam Safety Support has all the features that distinguish the regular Gripco Brake Beam Safety Support.

Blue Prints showing full details are available to you on request.

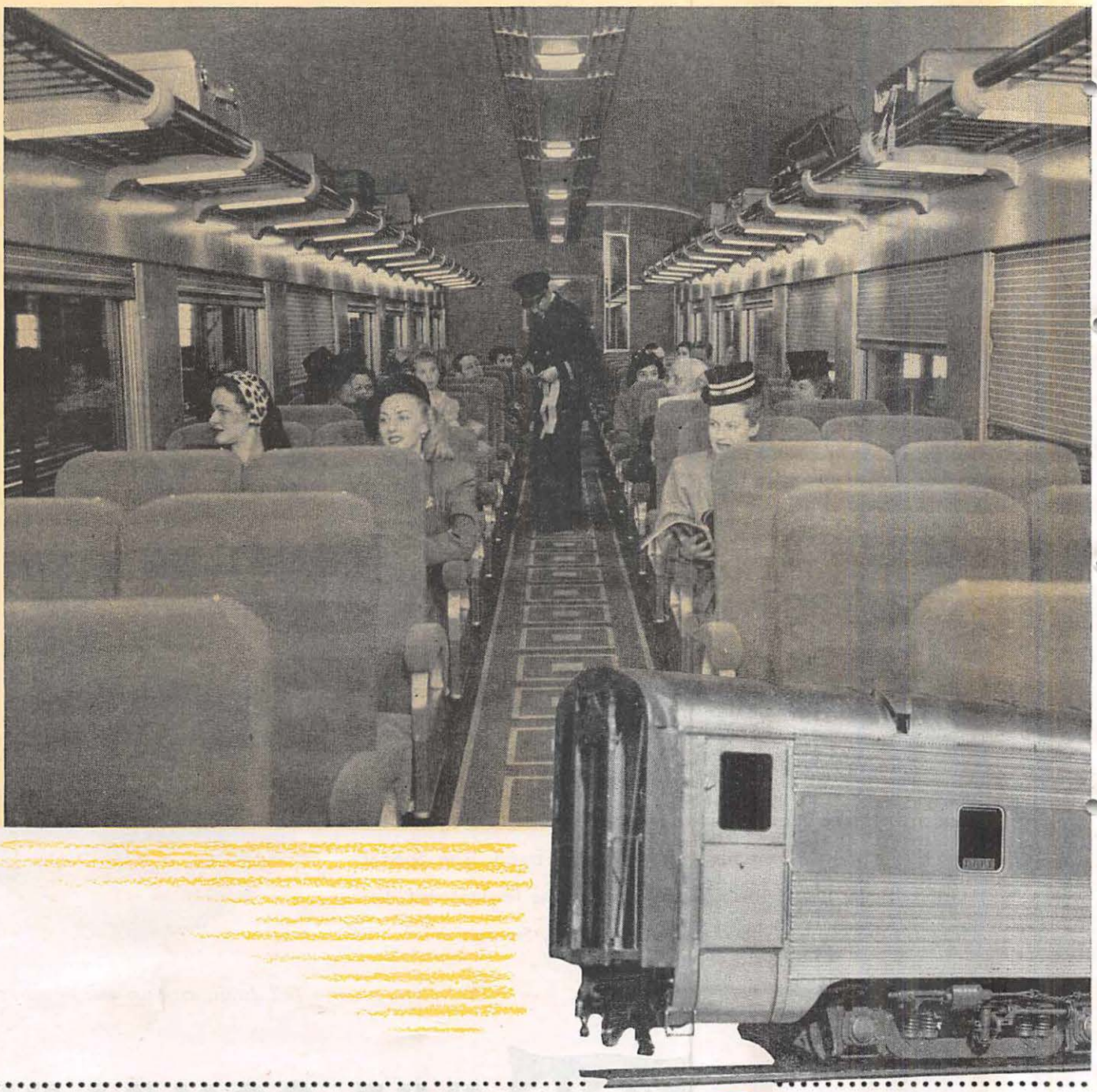
GRIP NUT COMPANY

310 SOUTH MICHIGAN AVENUE, CHICAGO 4, ILLINOIS

Serving American Railroads since 1906

REGIONAL OFFICES: ST. PAUL · MINNEAPOLIS · ST. LOUIS
SAN FRANCISCO · CHICAGO · CLEVELAND · SALT LAKE CITY · SALISBURY, N. C. · PITTSBURGH · NEW YORK

Another



Pullman-

CHICAGO · NEW YORK

Pullman-Standard FIRST

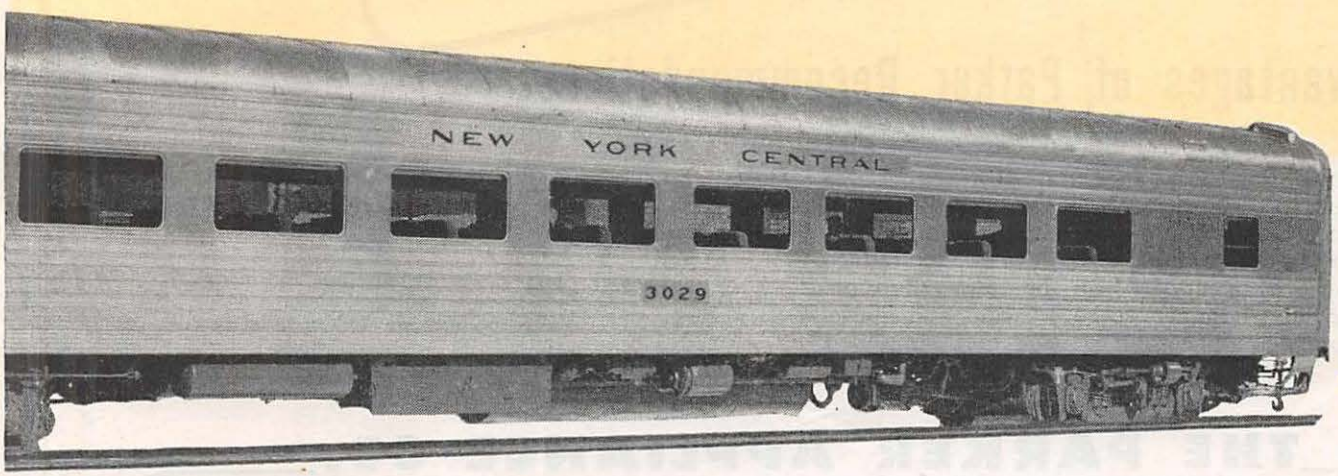
New York Central Coach is passenger Car No. 1 completely built and delivered since VJ Day

Now on the rails—this modern coach was delivered by Pullman-Standard on February 20th.

It is first in the race to equip the railroads with the new passenger cars they so badly need.

Experience, production know-how and unequalled facilities of the world's largest car building organization all combined to produce this car as quickly as possible despite acute shortages of material.

THERE IS NO SUBSTITUTE FOR EXPERIENCE



Standard CAR MANUFACTURING COMPANY

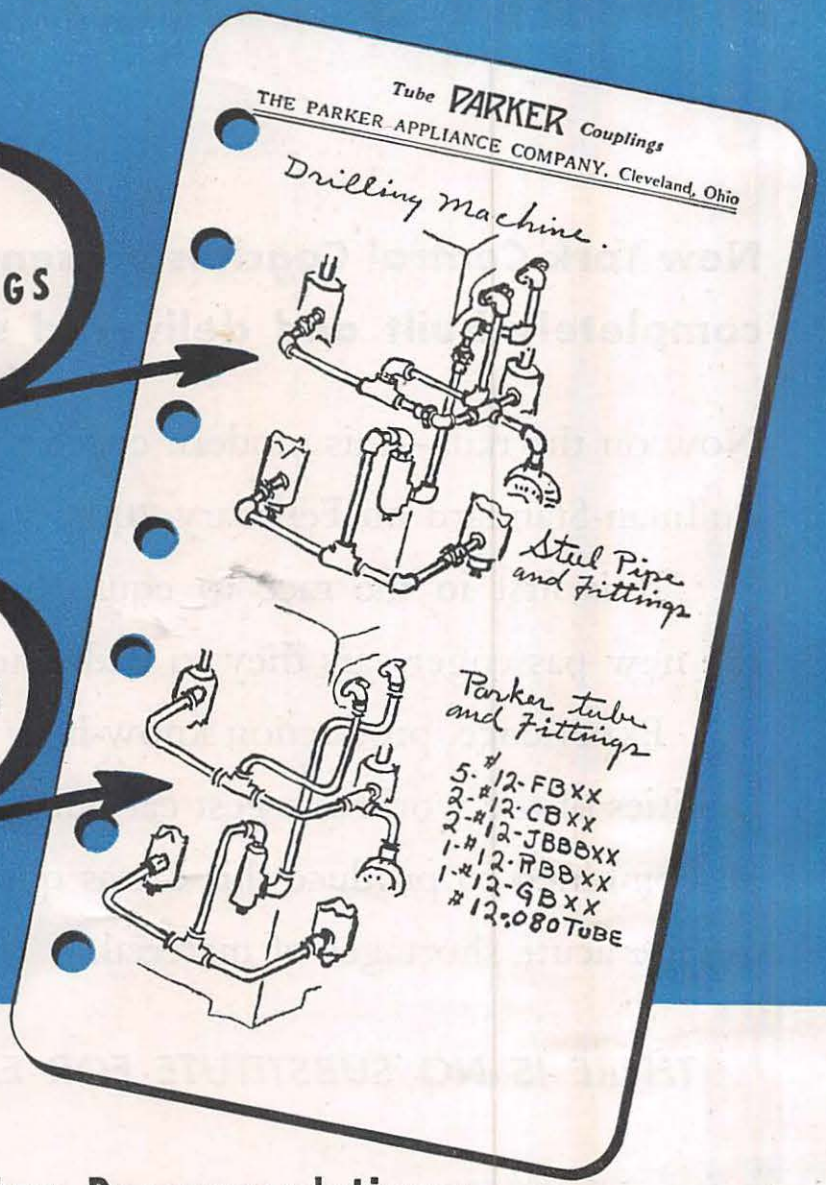
CLEVELAND · WASHINGTON, D. C. · PITTSBURGH · BIRMINGHAM · WORCESTER, MASS.

San Francisco Sales Representative, Mark Noble

PROOF FROM A PARKER ENGINEER'S NOTEBOOK

22 PIPE FITTINGS
OLD METHOD

11 PARKER TUBE COUPLINGS
RECOMMENDED PARKER METHOD



Advantages of Parker Recommendations:

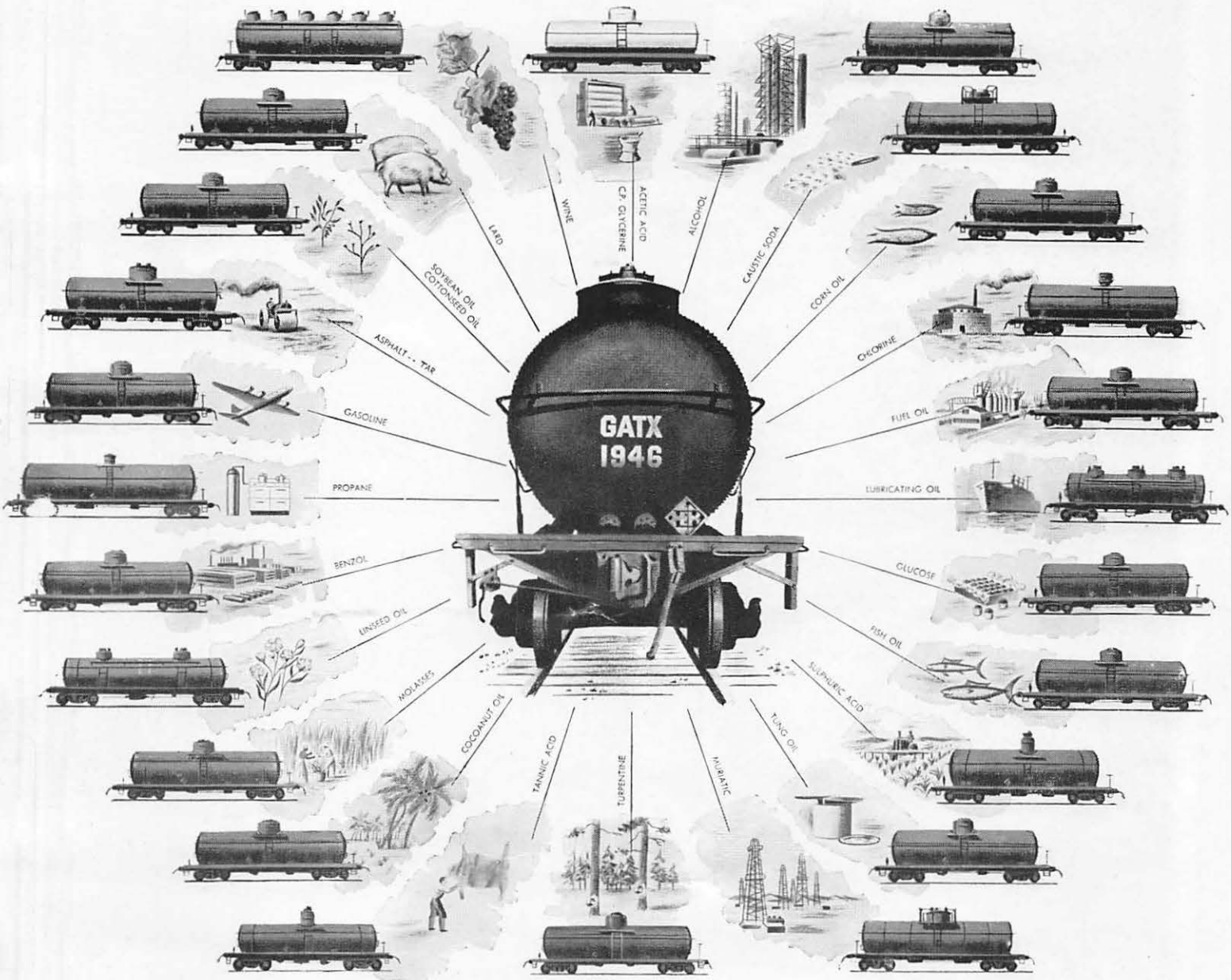
- Streamlined flow, free from obstructions. No pockets to cause turbulence. Less pressure drop; capacity and pressure requirements reduced.
- Fewer joints and connections — to reduce leakage, even under high pressure vibration, shock, fluid hammer, surge or accidental abuse.
- Compact, spacesaving, neat and simplified installation, especially in tight places — yet all parts are accessible for quick, easy installation and service.

• • •

We've engineered Fluid Power installations for many people — to bring them these advantages, under a wide range of exacting conditions. May we do the same for you? Let's talk it over.

THE PARKER APPLIANCE CO.
CLEVELAND • LOS ANGELES

FLUID POWER PRODUCTS FOR ALL INDUSTRY



FOR RENT

37,000 Specialized Tank Cars—207 Types—For Swift, Sure, Economical Transportation of Liquids in Bulk

•

GATX tank cars—207 types from 4,000 to 12,500 gallon capacities—haul an almost infinite variety of liquids: from propane to port wine to pine tar.

•

Strategically located offices, plants and repair shops throughout the nation give General American the unique ability to provide shippers precisely the kind of tank cars they want, *when* they want them, *where* they want them.

•

These tank cars are for rent. So, if the cargo is bulk liquid and the problem safe, fast, economical transportation—count on General American.

•

Take your tank car problems to our nearest office

GENERAL AMERICAN TRANSPORTATION
CORPORATION

General Offices: 135 S. La Salle Street, Chicago 3, Ill.

DISTRICT OFFICES

New York
St. Louis
Buffalo
Seattle
Los Angeles
Dallas
Houston
New Orleans
Tulsa
Cleveland
Pittsburgh

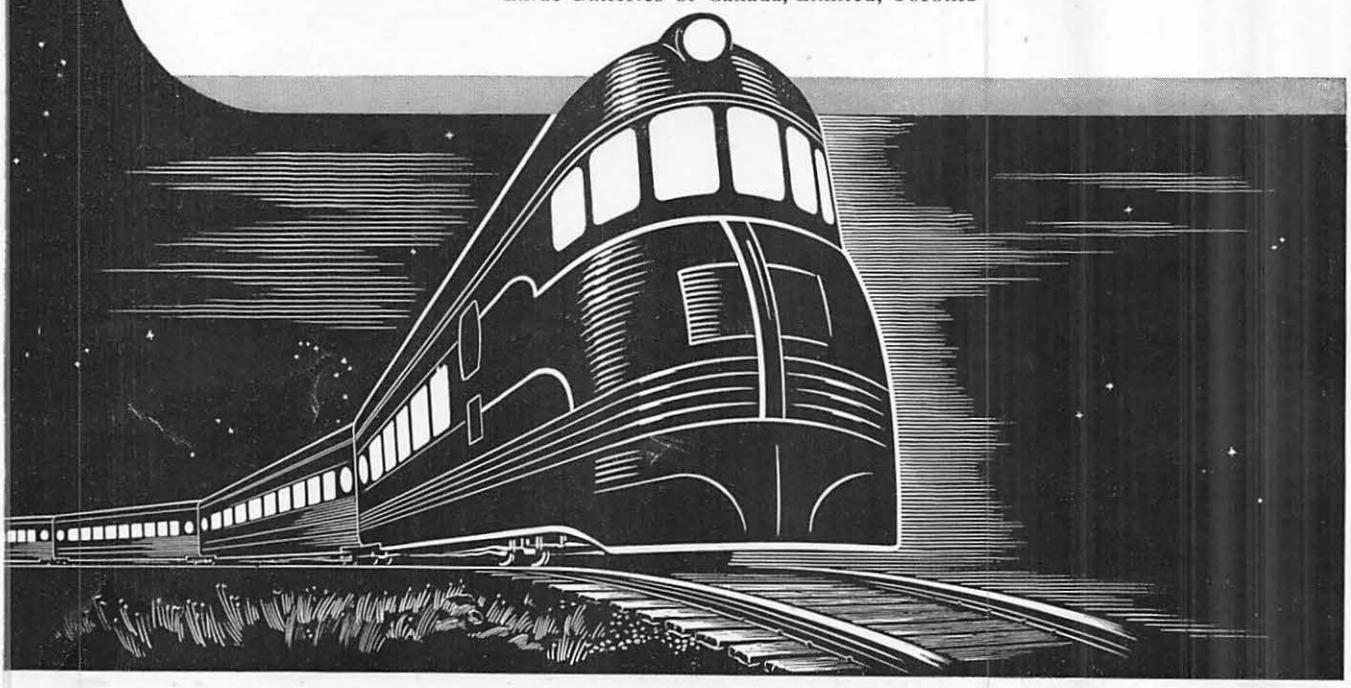
Exide-Ironclads

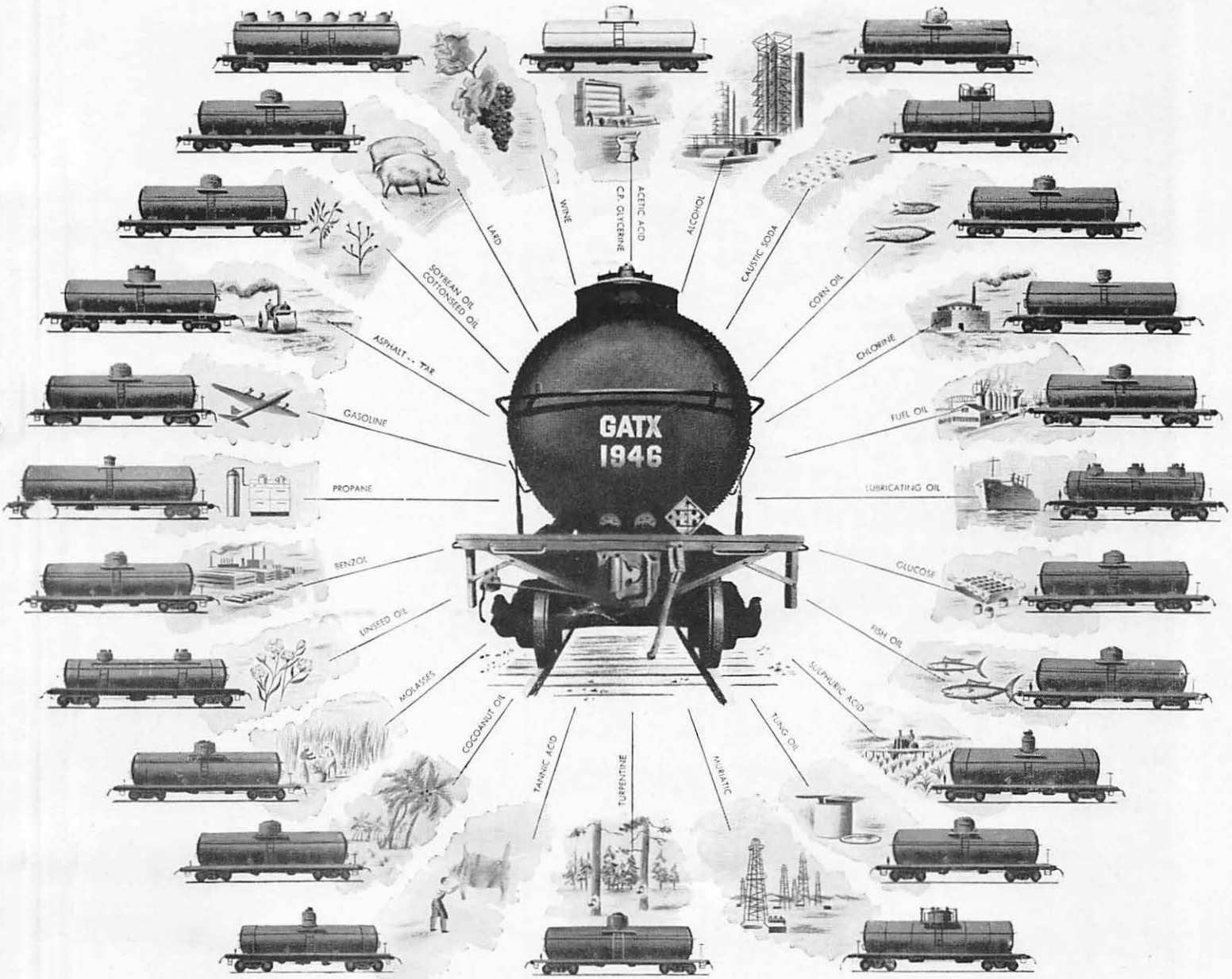
THE HIGH CAPACITY BATTERIES THAT MEET ALL MODERN NEEDS...

You see abundant evidence of the high capacity of Exide-Ironclads in the passenger cars' bright lights, which glow steadily even during long stops. You see it in the smoothly running compressors, in the cranking of Diesel locomotives . . . in *all* storage battery tasks. And this high capacity is constantly maintained, for Exide-Ironclads are designed to give maximum output under the heaviest demands.

Because of their dependability, long-life and greater economy, Exide Batteries have been the first choice of railroad management since 1891. Their performance records will be repeated on the fine, new equipment that will soon be in operation.

THE ELECTRIC STORAGE BATTERY COMPANY, Philadelphia 32
Exide Batteries of Canada, Limited, Toronto





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These tank cars are for rent. So, if the cargo is bulk liquid and the problem safe, fast, economical transportation—count on General American.

•

Take your tank car problems to our nearest office

GENERAL AMERICAN TRANSPORTATION
CORPORATION

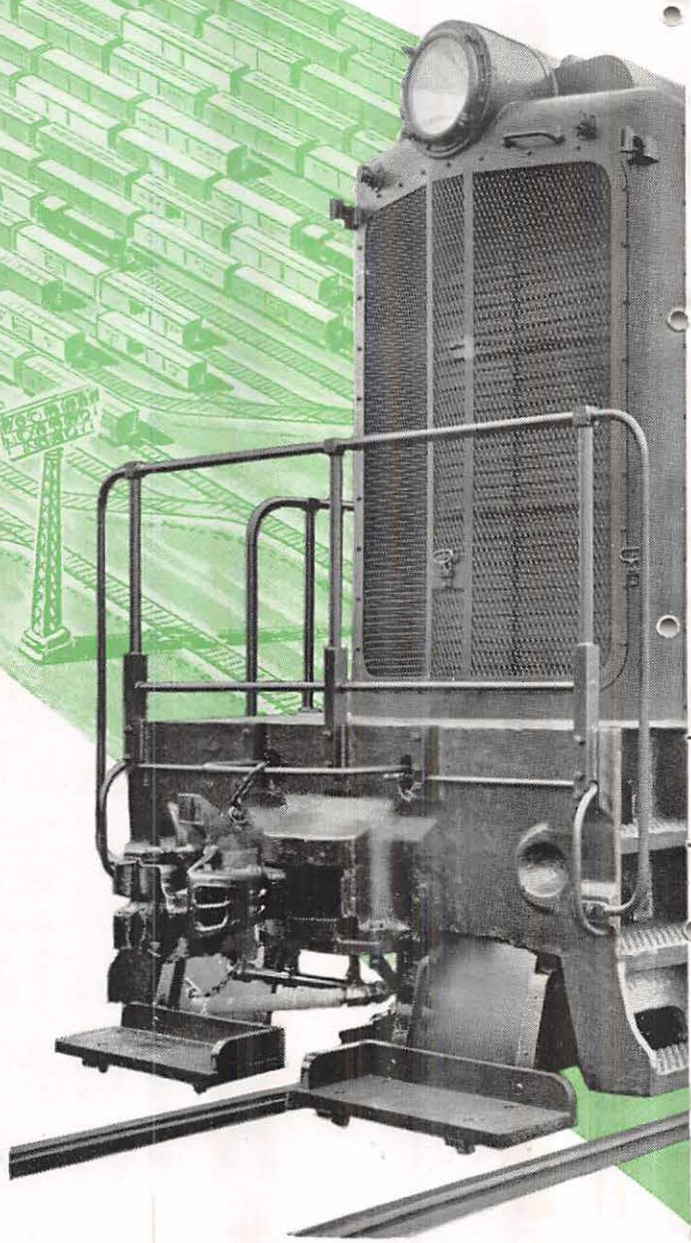
General Offices: 135 S. La Salle Street, Chicago 3, Ill.

DISTRICT OFFICES

New York	Los Angeles	New Orleans
St. Louis	Dallas	Tulsa
Buffalo	Houston	Cleveland
Seattle		Pittsburgh

Diesel values are measured "by the yard"...

and BALDWIN-DIESEL-



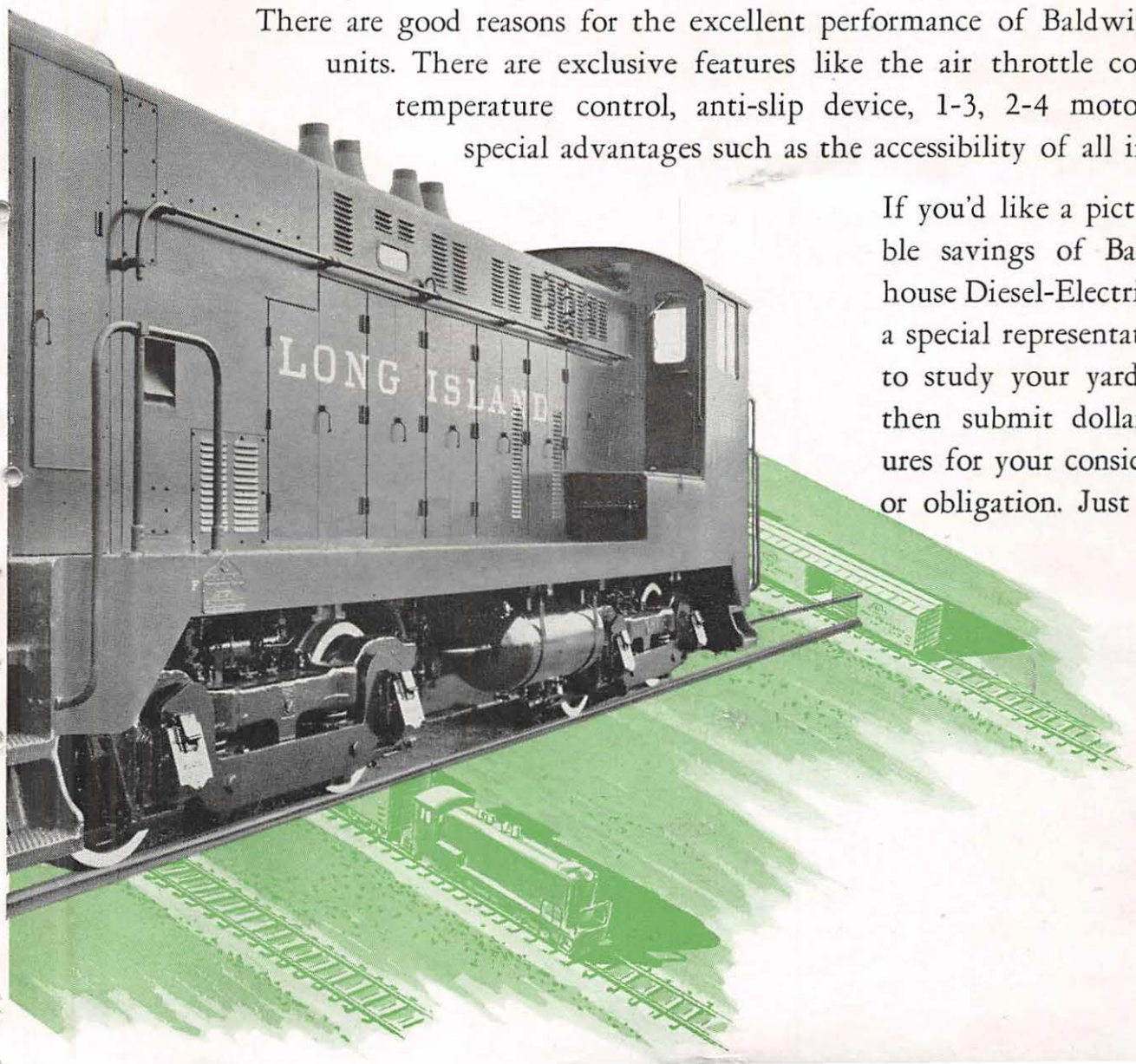
THE **BALDWIN-**
LOCOMOTIVE WORKS, PHILADELPHIA

Westinghouse
ELECTRIC CORPORATION, EAST PITTSBURGH, PA.

WESTINGHOUSE ELECTRICS *meet the test!*

Service in the yard is the measuring stick of diesel performance . . . and on more than 60 railroads, Baldwin-Westinghouse Diesel-Electric locomotives are proving their ability to handle the toughest assignments the roads have to offer.

There are good reasons for the excellent performance of Baldwin-Westinghouse units. There are exclusive features like the air throttle control, automatic temperature control, anti-slip device, 1-3, 2-4 motor hookup, plus special advantages such as the accessibility of all inspection points.



If you'd like a picture of the possible savings of Baldwin-Westinghouse Diesel-Electrics in *your* service, a special representative will be glad to study your yard conditions and then submit dollars-and-cents figures for your consideration. No cost or obligation. Just tell us.

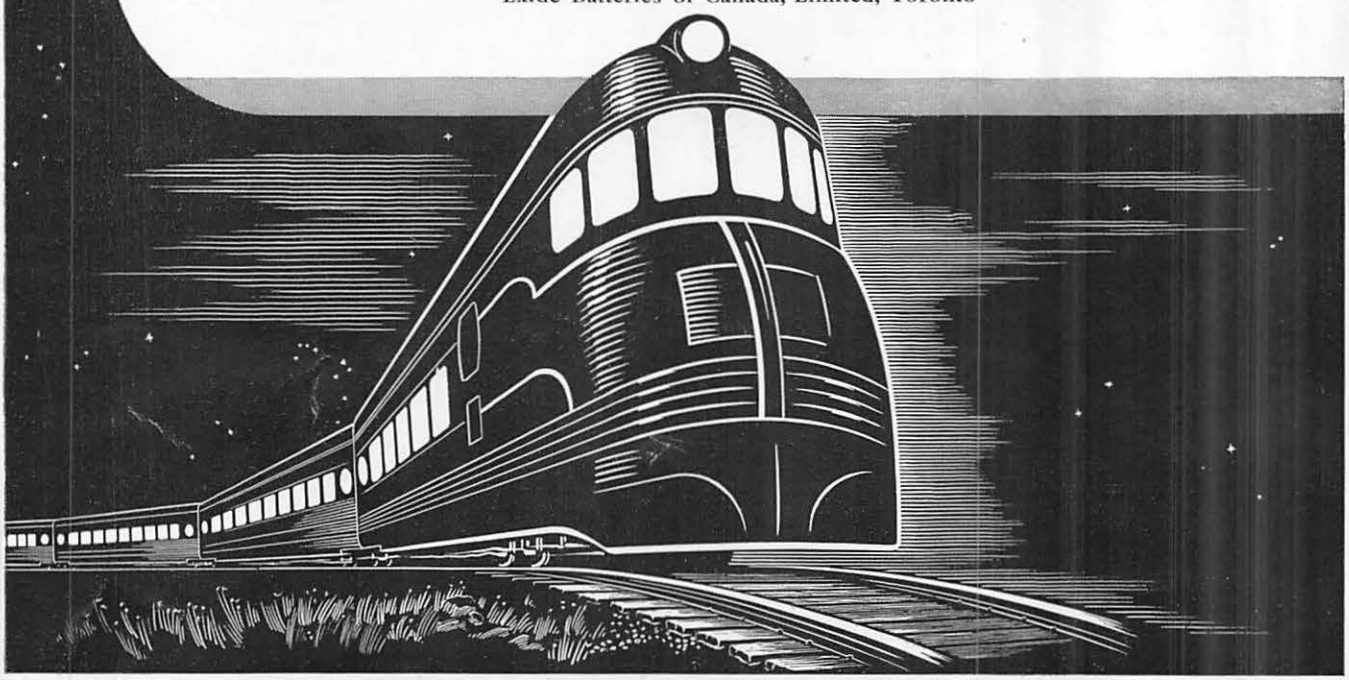
Exide-Ironclads

THE HIGH CAPACITY BATTERIES THAT MEET ALL MODERN NEEDS...

You see abundant evidence of the high capacity of Exide-Ironclads in the passenger cars' bright lights, which glow steadily even during long stops. You see it in the smoothly running compressors, in the cranking of Diesel locomotives . . . in *all* storage battery tasks. And this high capacity is constantly maintained, for Exide-Ironclads are designed to give maximum output under the heaviest demands.

Because of their dependability, long-life and greater economy, Exide Batteries have been the first choice of railroad management since 1891. Their performance records will be repeated on the fine, new equipment that will soon be in operation.

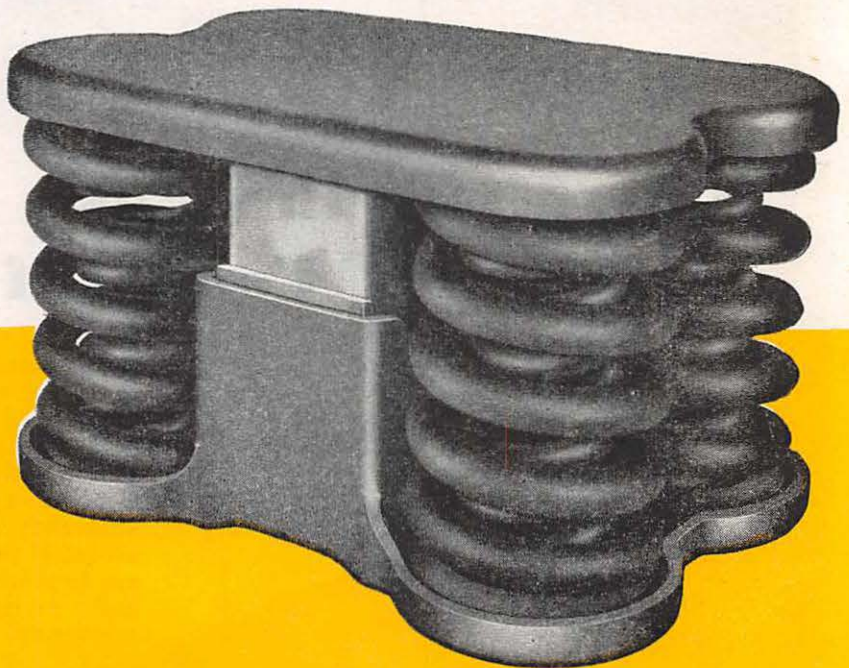
THE ELECTRIC STORAGE BATTERY COMPANY, Philadelphia 32
Exide Batteries of Canada, Limited, Toronto



NEWS that is NEWS!

THE NEW A·S·F *Ride-Control* PACKAGE

GIVES NEW MEANING TO YOUR REHABILITATION PROGRAM



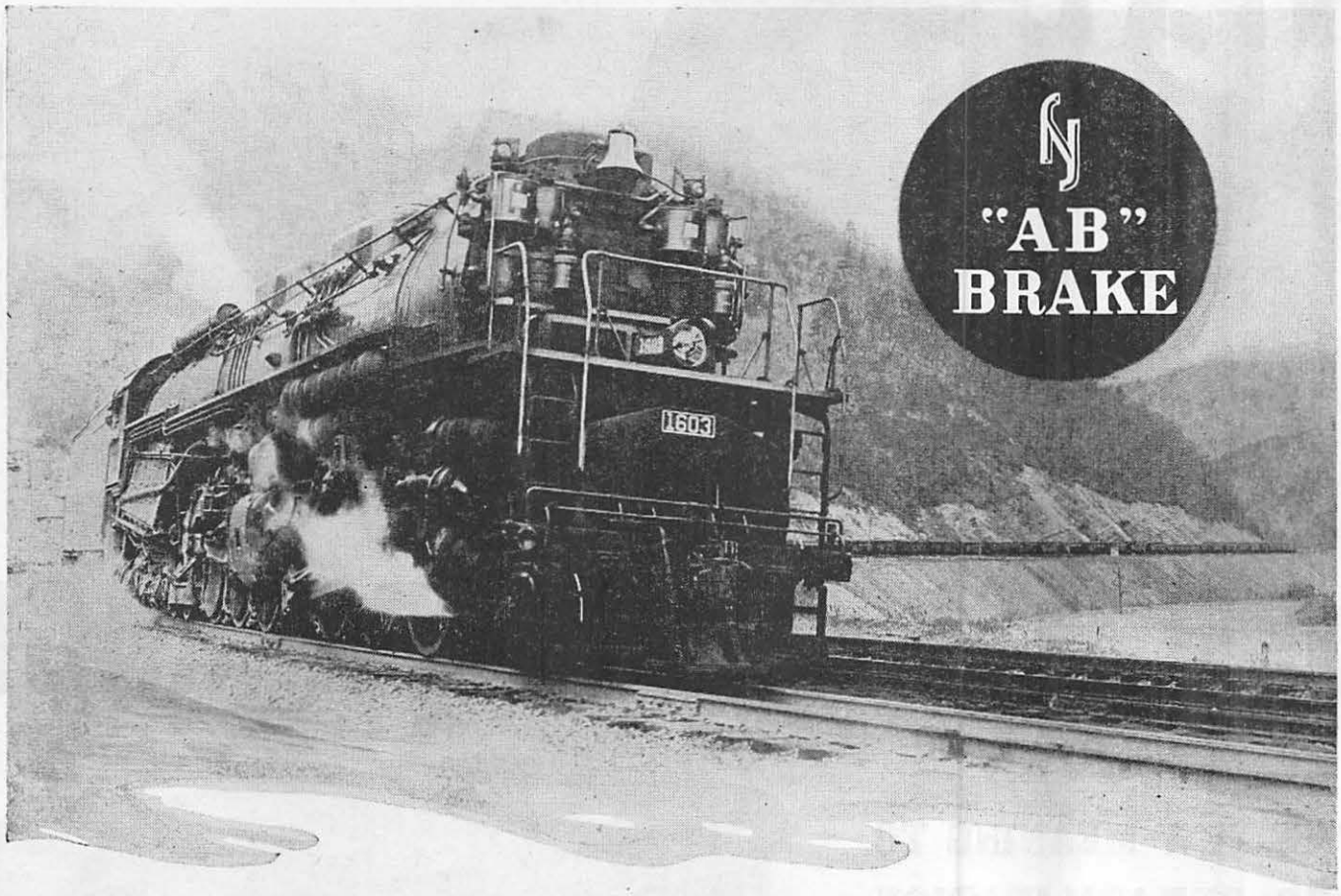
GET ALL THE FACTS FROM YOUR A·S·F REPRESENTATIVE

A Self-Contained Unit with

- **SOFT, LONG-TRAVEL SPRINGS**
- **CONSTANT FRICTION CONTROL**

for the Easy Ride that makes existing freight cars modern

AMERICAN STEEL FOUNDRIES



Hats off to the Past
Coats off to the Future

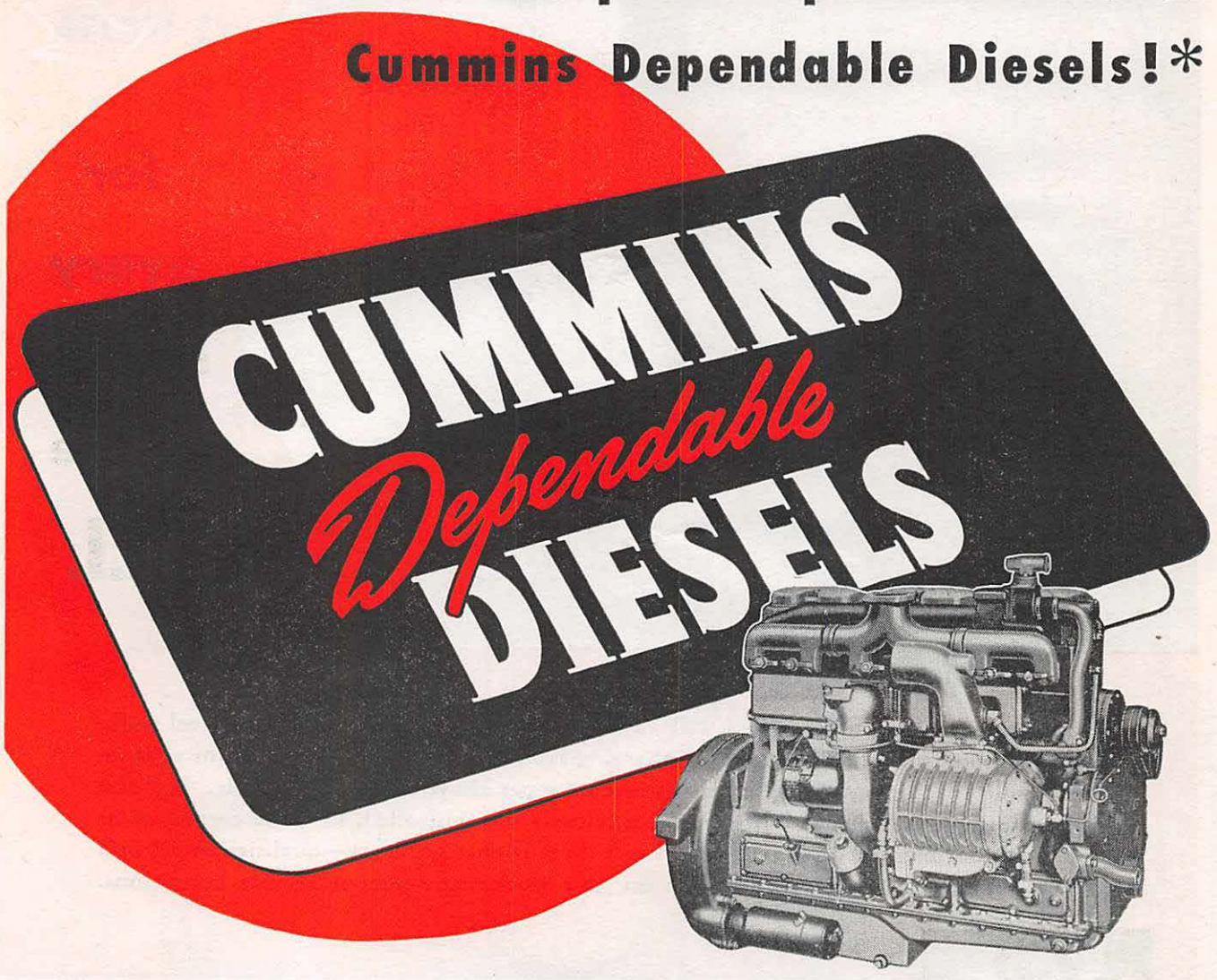
THE amazing record chalked up by American railroads during the war era offers a challenge for the future. No industry has planned better or achieved more.

"AB" Air Brakes have made a vital contribution in improved freight train operation. This smooth, positive retardation control reduces damage claims and equipment maintenance costs. Calibration for better slack control is an important feature needed in today's exacting operations. Railroad men with an eye to the future, are making complete standardization their goal. Increase in ton miles per car per locomotive — more revenue out of rolling stock — are inevitable.

The New York Air Brake Company

420 Lexington Ave., New York 17, N.Y. Plant: Watertown, N.Y.

Proved dependable . . . over millions of miles . . . through millions of work-hours. In railway service, you can't beat the proved performance of Cummins Dependable Diesels!*



**The Facts:* In all types of heavy-duty railway installations, Cummins *High Speed* Diesels have fully demonstrated their dependability and economy. Plan now to find out more about how Cummins *High Speed* Diesels, properly rated and properly applied, can pave the way to increased profits from your equipment by reducing weight and increasing speed. Cummins *High Speed* Diesels offer a choice of 150-200-275 hp (maximum) . . . engine weights as low as 10½ pounds per horsepower. For full details of design, construction and operation, write: Cummins Diesel Railroad Equipment Co., Inc., 1030 Leggett Avenue, New York 55, New York.

CUMMINS ENGINE COMPANY, INC., COLUMBUS, INDIANA

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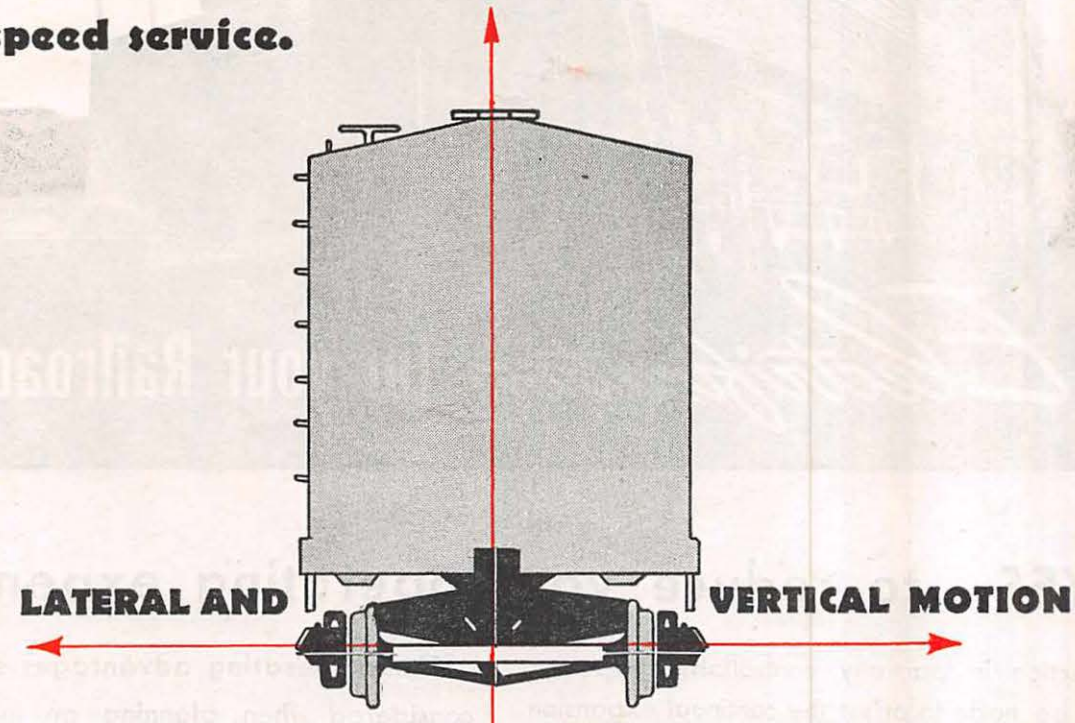
SCULLIN L-V TRUCK

LATERAL-VERTICAL
CUSHIONED MOTION

A new freight car truck designed to prevent lading damage and operate safely in general and high speed service.



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ARMY ★ NAVY

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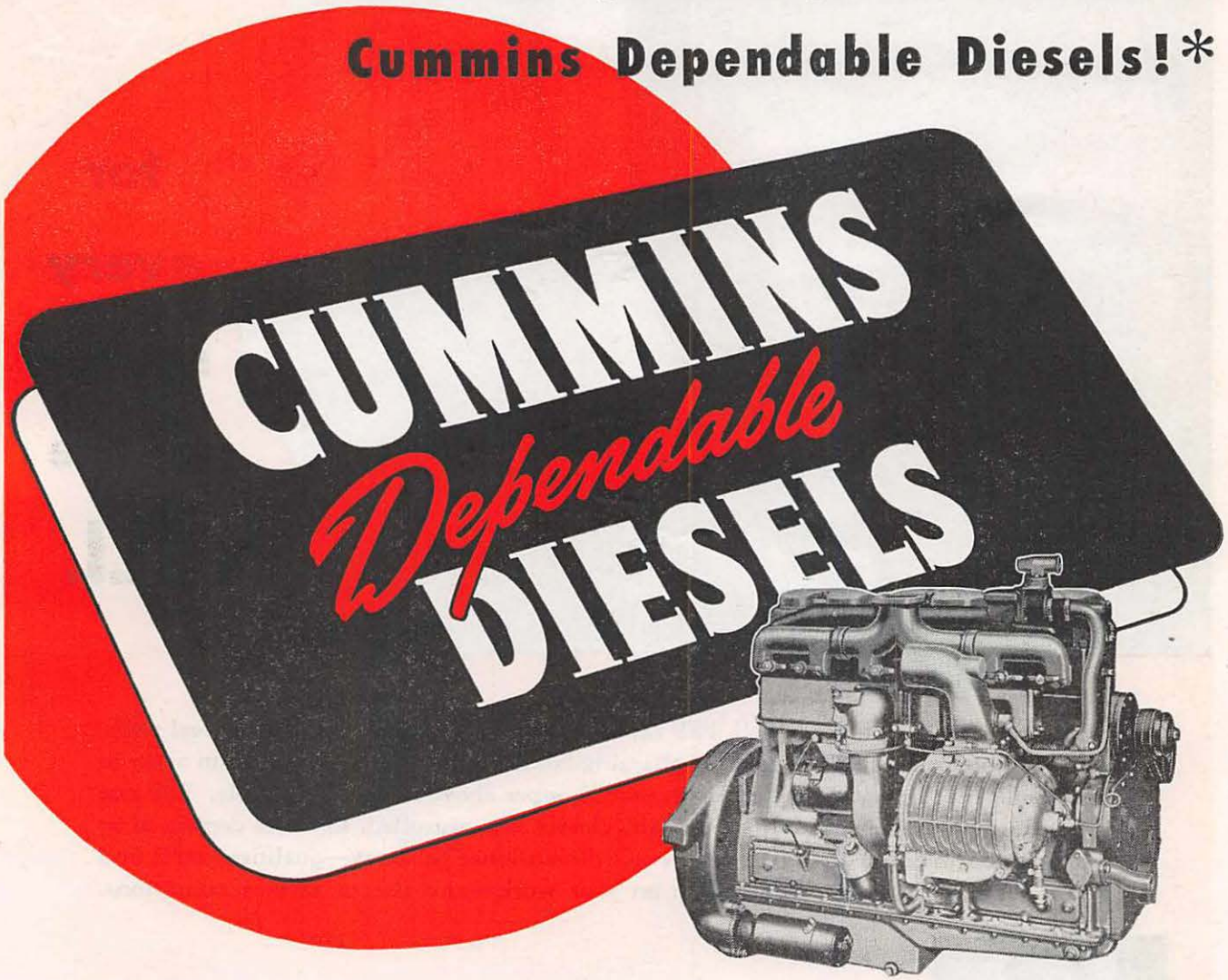

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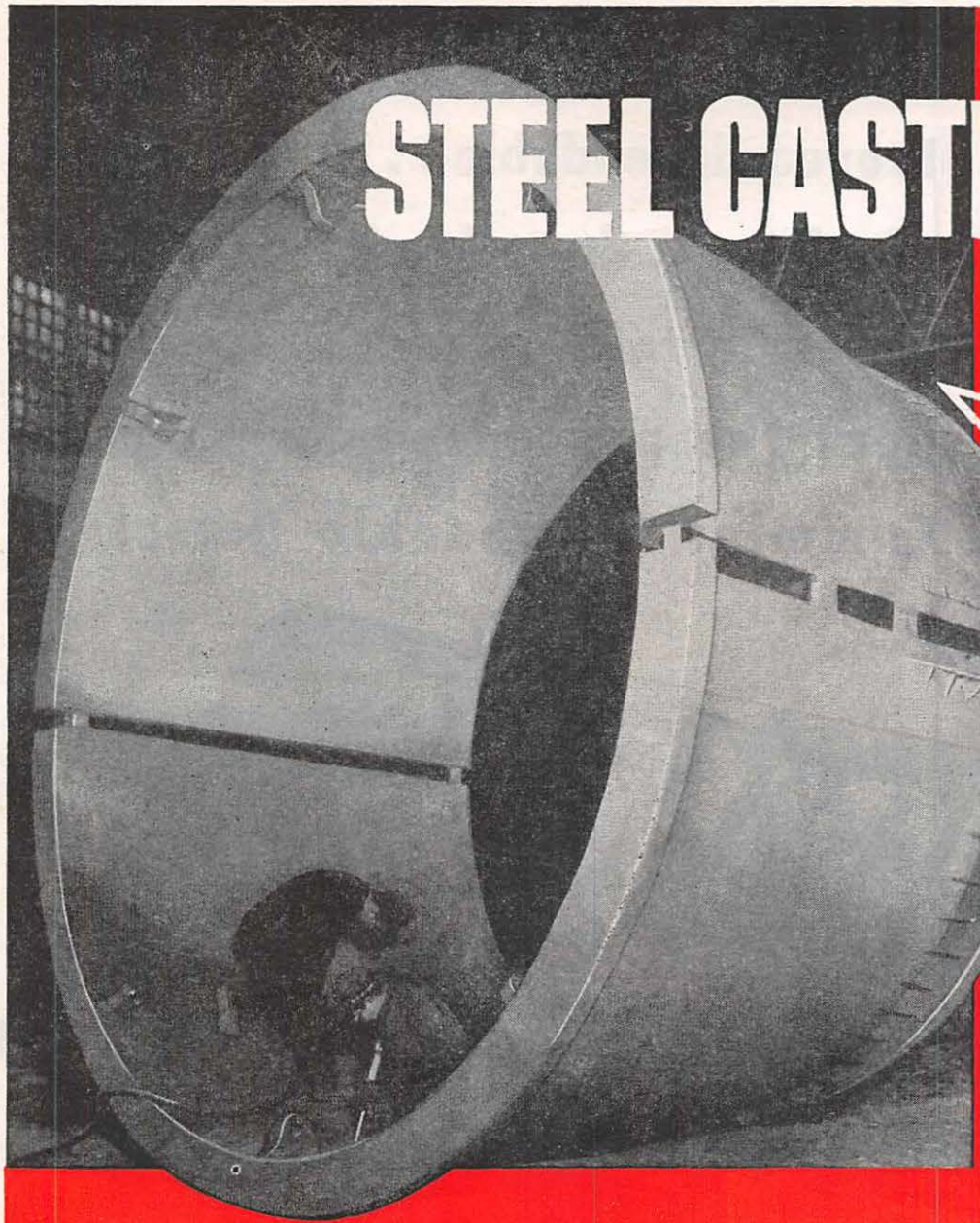
CUMMINS ENGINE COMPANY, INC., COLUMBUS, INDIANA

STEEL CASTINGS



for every section of the MILL

From pouring pit to furnace bell, PSF castings serve everywhere around the steel mills. They rumble by as sturdy ingot cars, charging boxes, ladles and slag pots—hum away in husky mill machinery. The big blast furnace hopper above is a good example. PSF cast it by the most modern foundry methods, closely lab-controlled, to make certain of its sound, uniform-grained strength and exact dimensional accuracy—qualities you'll find in all PSF steel castings. • Call us in on your work—any size or service conditions.

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Now this piston will last LONGER

BECAUSE IT'S FLAME-HARDENED

The life of hundreds of locomotive and car parts is substantially lengthened by simple, inexpensive flame-hardening. Apparatus to do this kind of work can be constructed easily with help from The Oxweld Railroad Service Company. Ask a representative for more information.

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Raised from 217 to 415 Bhn (average)
No distortion problem

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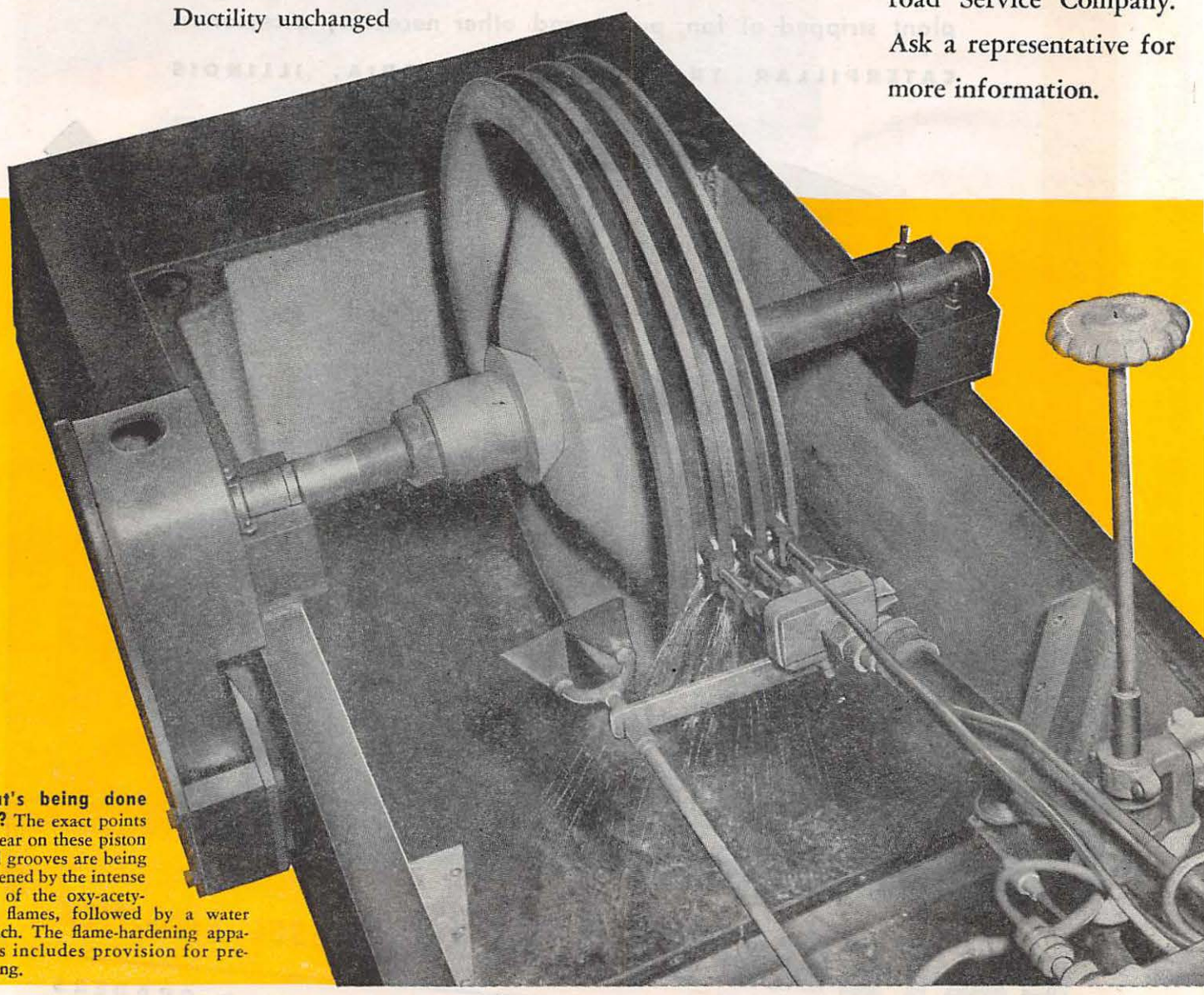
No change in toughness
Ductility unchanged



What's being done here? The exact points of wear on these piston head grooves are being hardened by the intense heat of the oxy-acetylene flames, followed by a water quench. The flame-hardening apparatus includes provision for preheating.

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OXWELD RAILROAD SERVICE

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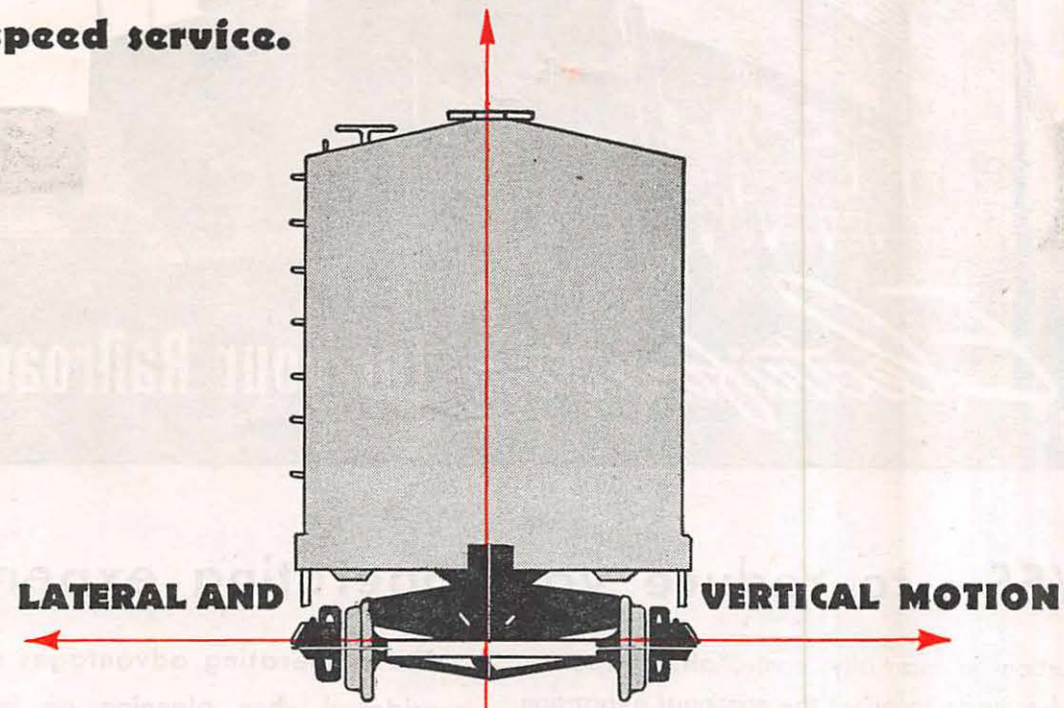

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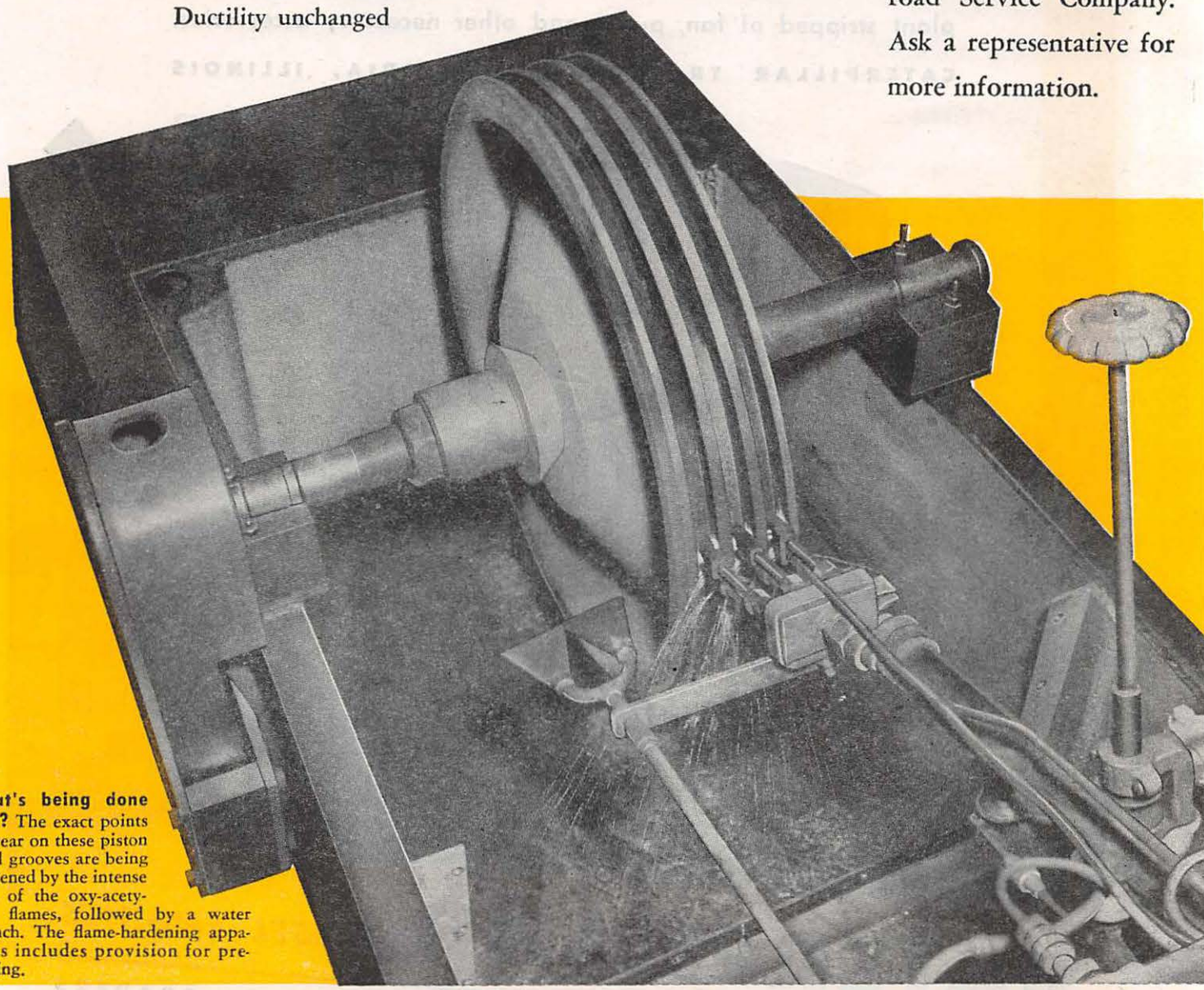

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OXWELD RAILROAD SERVICE

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THE POWER IT PROMISES
IS THE POWER IT DELIVERS

The horsepower of "Caterpillar" Diesel Engines is all WORK-POWER. Ratings show maximum output of a fully equipped engine—not the momentary peak performance of a power-plant stripped of fan, pump and other necessary accessories.

CATERPILLAR TRACTOR CO., PEORIA, ILLINOIS

More than 90% of the 44-tonners in the Western Hemisphere are "Caterpillar" Diesel-powered.

• This "Caterpillar" Diesel-powered 44-tonner switches coal cars around the plant of the Kansas City Power & Light Co. Works 8 hours a day (24 hours during peak season). Marks great increase in availability over previous electric-battery locomotive.

CATERPILLAR DIESEL ENGINES

REG. U.S. PAT. OFF.

The discharged veteran wears this emblem. Remember his service and honor him.

TRACTORS • MOTOR GRADERS
EARTHMOVING EQUIPMENT

YES...to reduce your operating expenses

Reduction in partially controllable expenses must be made to offset the continual expansion of operating expenses completely beyond the control of the railroads.

Electrification assures more economic operation by minimizing those major expenses:

1. Fuel, water and lubrication.
2. Enginehouse expense—less than 20% of that for steam locomotives.
3. Repairs—less than 40% of that for steam or diesel.

These operating advantages should be considered when planning an increase in passenger and freight service.

Westinghouse engineers are available to discuss these and all other features of electrification. Call your Westinghouse office or write Westinghouse Electric Corporation, P. O. Box 868, Pittsburgh 30, Pennsylvania. J-95129

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FOR OVER 60 YEARS THE BEST KNOWN NAME IN RAILROAD ELECTRICAL EQUIPMENT

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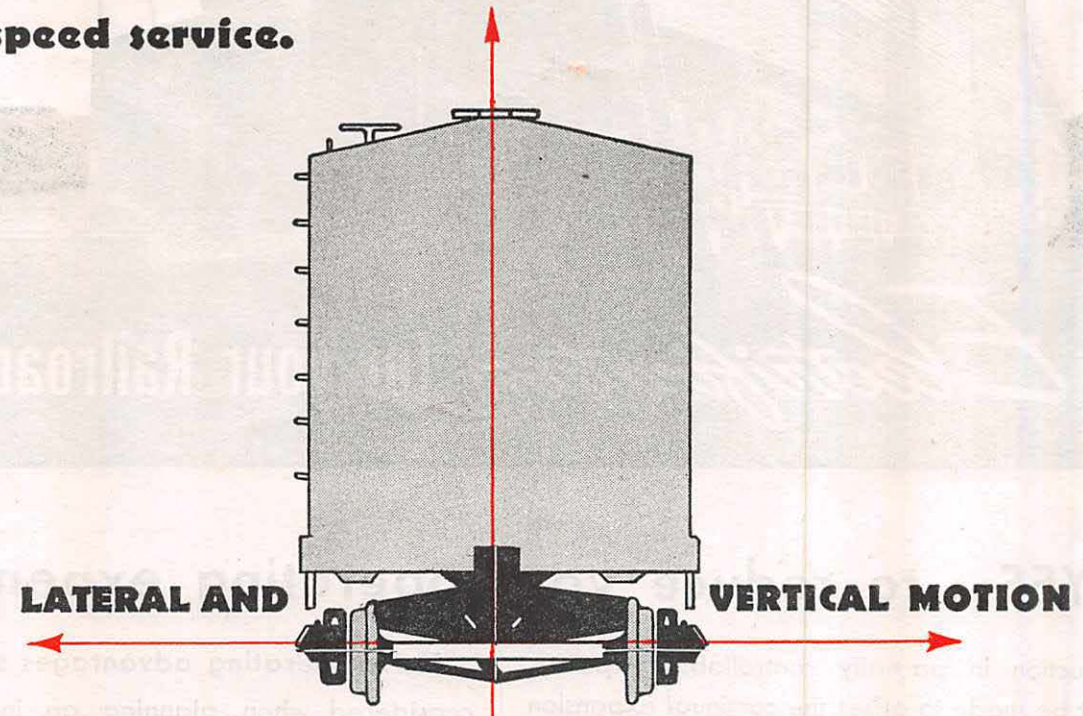
A new freight car truck designed to prevent lading damage and operate safely in general and high speed service.



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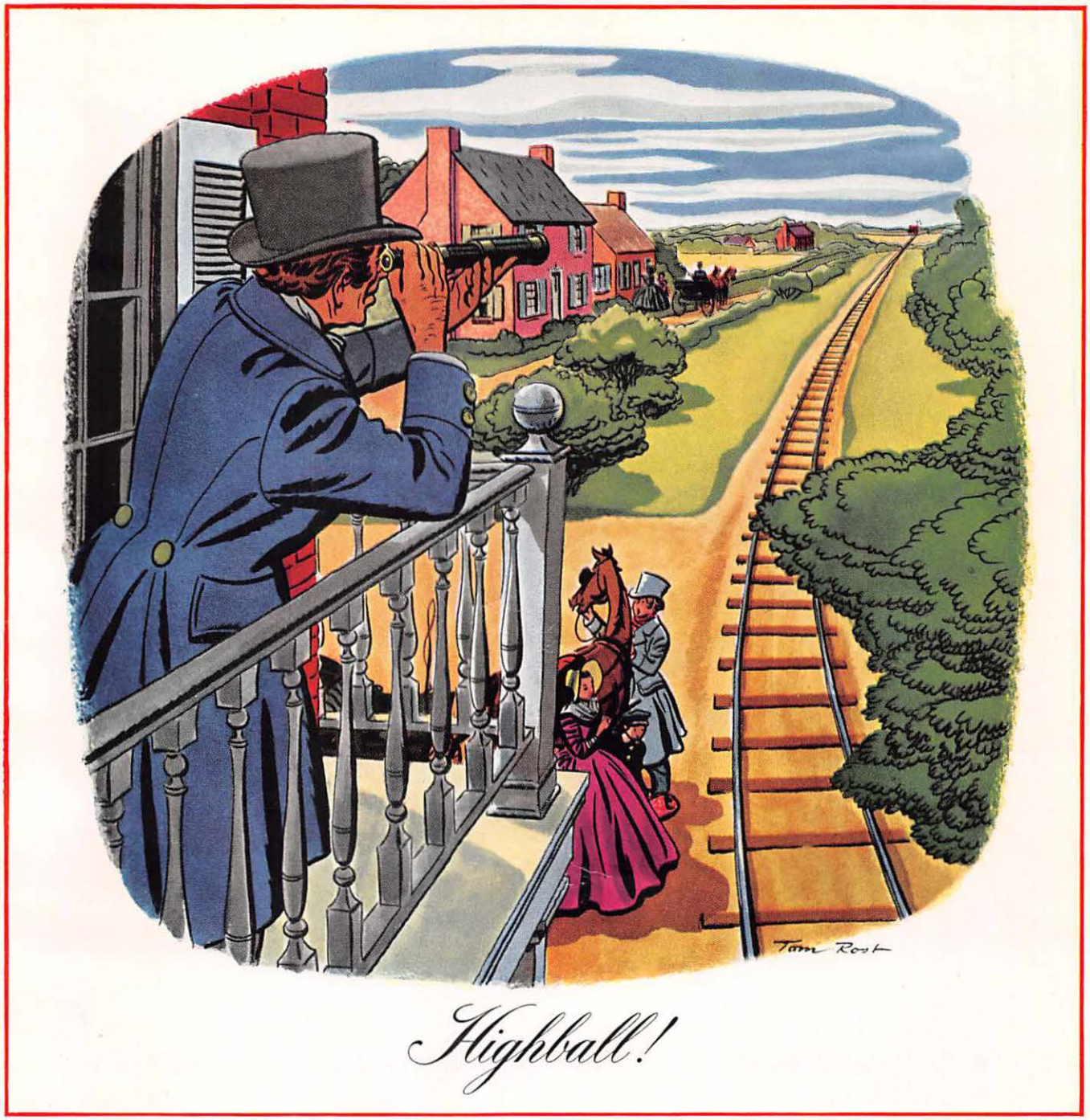
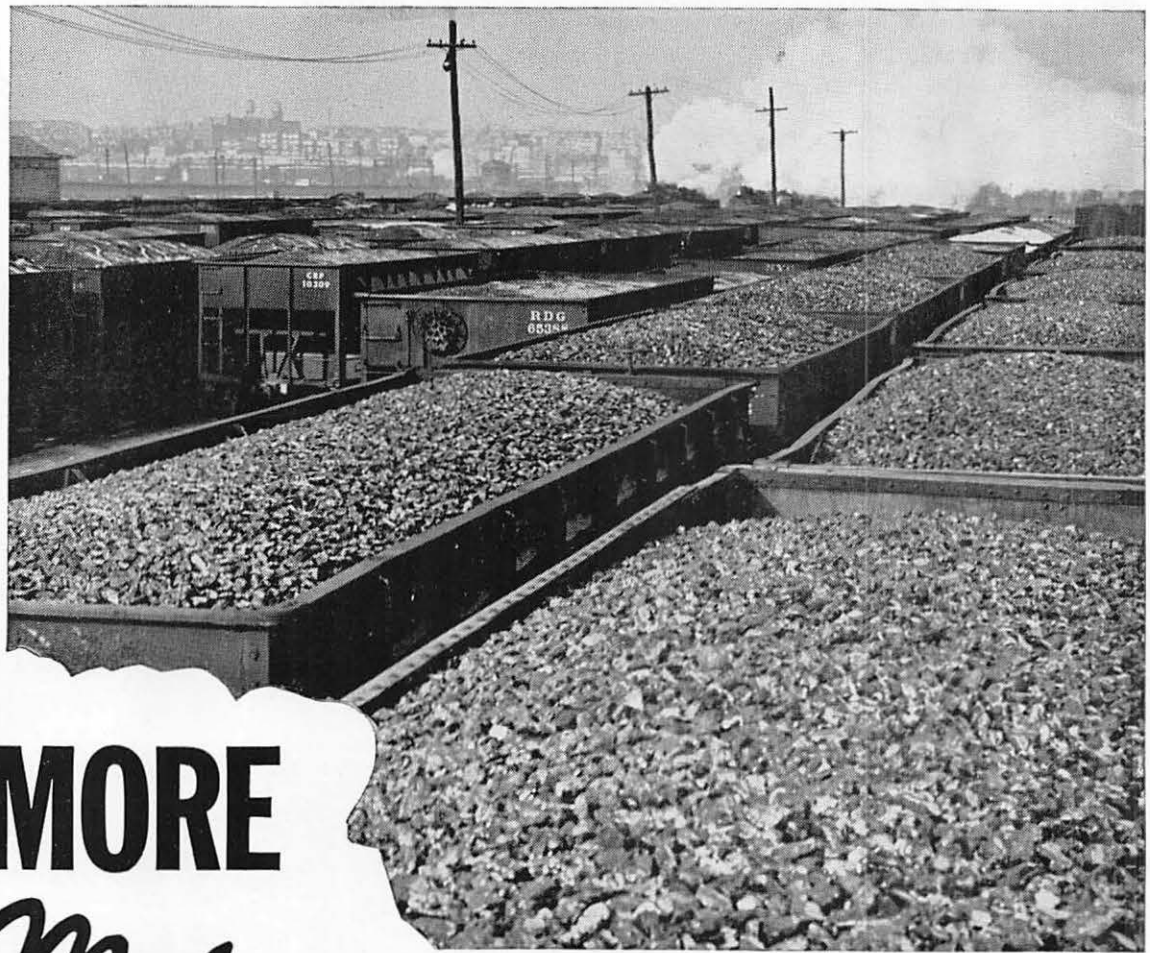


Highball!

Once upon a time the "Highball" was modern

SINCE these early days, railroading has come a long way • We at Airco have paralleled this progress in our services to the railroads • Today, the Airco Plan represents the greatest advance in oxyacetylene practices. It utilizes all the acquired skill and the resources of your own trained maintenance employees. It cuts costs, promotes employee morale, and increases oxyacetylene process efficiency.

AIRCO **AIR REDUCTION**
60 East 42nd Street, New York 17, N. Y.



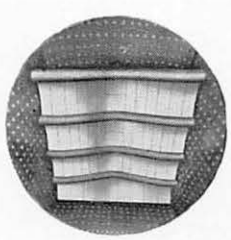
MORE *Mileage* FROM EVERY TON of COAL

● Because the railroads have first to haul every ton of coal their locomotives burn, it is doubly important these days that coal be utilized most efficiently and economically.

Experience has proved that maximum production of steam from a ton of coal is secured only when the locomotive firebox is equipped with a complete brick arch.

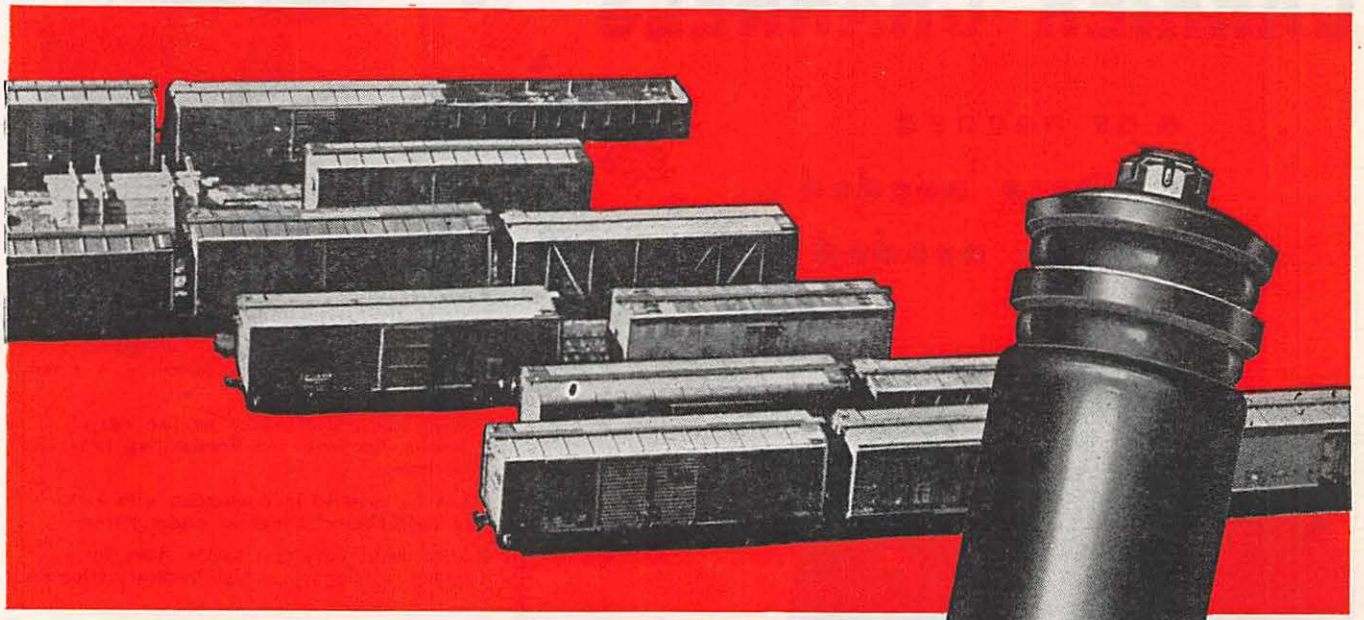
Consequently from the standpoint of fuel cost alone, it is unprofitable to operate any locomotive without a complete arch.

HARBISON-WALKER REFRACTORIES CO.
Refractories Specialists



AMERICAN ARCH CO. INC.
60 East 42nd Street, New York 17, N. Y.
Locomotive Combustion Specialists

PUT *Tomorrow's Ride* INTO *Today's Equipment!*



Lighter weight cars, constructed to carry more tonnage at faster speeds and at greater profit—No one need tell *you*—that's the program for the railroad's future.

Designing of cars to do the job will be immensely simplified if Monroe Direct-Double-Action *Hydraulic* Shock Absorbers are included in your basic specifications.

Meanwhile these Monroe Shock Absorbers specially designed for railroad use will speed the rehabilitation of cars that must continue to carry the present traffic.

The Monroe shock absorber—because it is *hydraulic*—insures more uniform action and longer efficient service.

Monroe's Direct-Double-Action *Hydraulic* Shock Absorbers check progressive harmonic motion... control vertical and swaying action... protect lading, equipment and road-bed... reduce maintenance costs and damage claims... make higher speeds safer and practicable. They are quickly and easily installed without reduction of spring capacity.

MONROE

NEW DIRECT-DOUBLE-ACTION *HYDRAULIC* SHOCK ABSORBERS

Our engineers experienced in the application of Monroe shock absorbers that have cut railroad costs and improved over millions of car miles will gladly work with you in production of new designs or rehabilitation of your present cars.

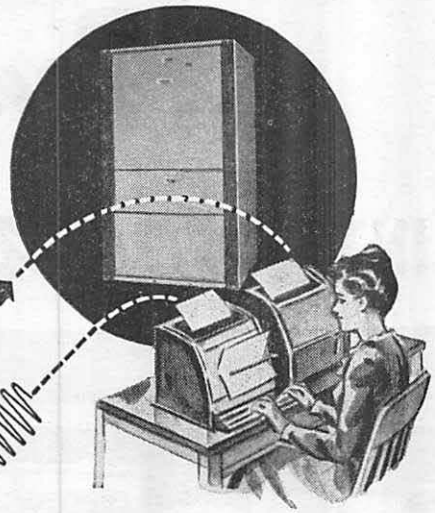
RAILWAY SUPPLY DIVISION

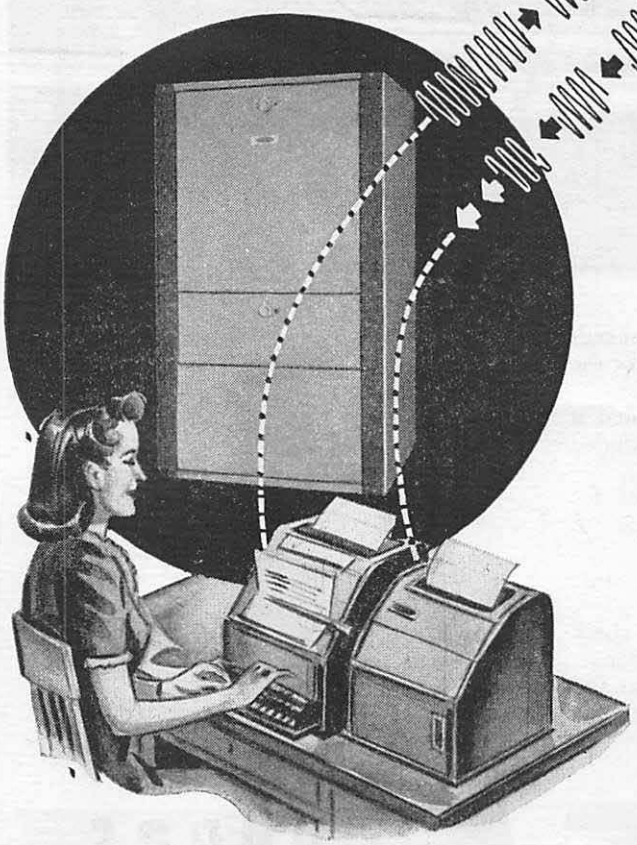
MONROE AUTO EQUIPMENT CO., MONROE, MICH.

Lenkurt

TELEGRAPH
CARRIER CHANNELS

- as needed
- where needed
- when needed





- A-C operated—self-contained power pack.
- Self-regulating feature, compensating for line attenuation up to 20 db.
- Simplicity . . . "packaged" construction . . . each Receiver and each Transmitter is a self-contained unit.
- Most applications require no line relays . . . built-in Receiving and Transmitting relays are electronic.
- Can be operated in conjunction with 1-channel or multi-channel telephone carrier system.
- Same model equipment usable either for voice-frequency telegraph or high-frequency telegraph.

Lenkurt Carrier Equipment has fully demonstrated its unique flexibility for the teletype communications of railroads, power and pipeline companies. Each channel comprises a standard self-contained "package" including its own a-c operating power supply. *Any required number* of duplex circuits can be superimposed on a single open-wire pair.

Lenkurt Carrier Equipment can be furnished to operate in the voice-frequency range for superimposing on any type of telephone carrier channel. It can also be furnished in the high-frequency range, for superimposing directly on the line facilities, even though these facilities may already serve a telephone carrier channel. FM models are available for applications where this type of operation is indicated.

Our experienced carrier technicians will be glad to work with you in planning carrier channel installations. Send for Circular 1664, containing valuable information on Lenkurt Carrier Equipment.

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Railway Age

With which are incorporated the Railway Review, the Railroad Gazette, and the Railway Age-Gazette. Name registered in U. S. Patent Office.

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Intensive research, the operation of a full-scale pilot plant and two years' service in track also have proved the practicability of vapor drying for poles and lumber.

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Release from war restrictions on materials brings a wider range of projects for both improvements and upkeep programs, to meet needs of peacetime traffic.

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Since 1933 "smoke-and-odor" detectors have been under continuous trial and evolution—Now adopted for general installation.

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★

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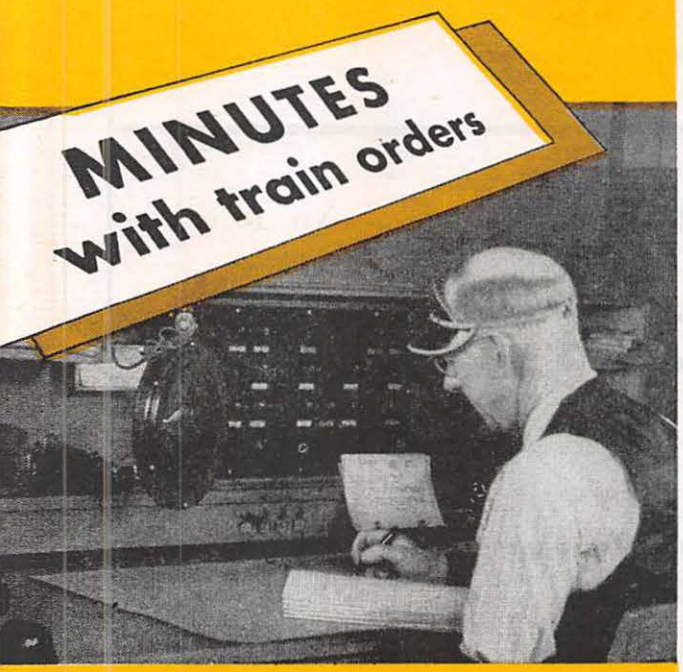
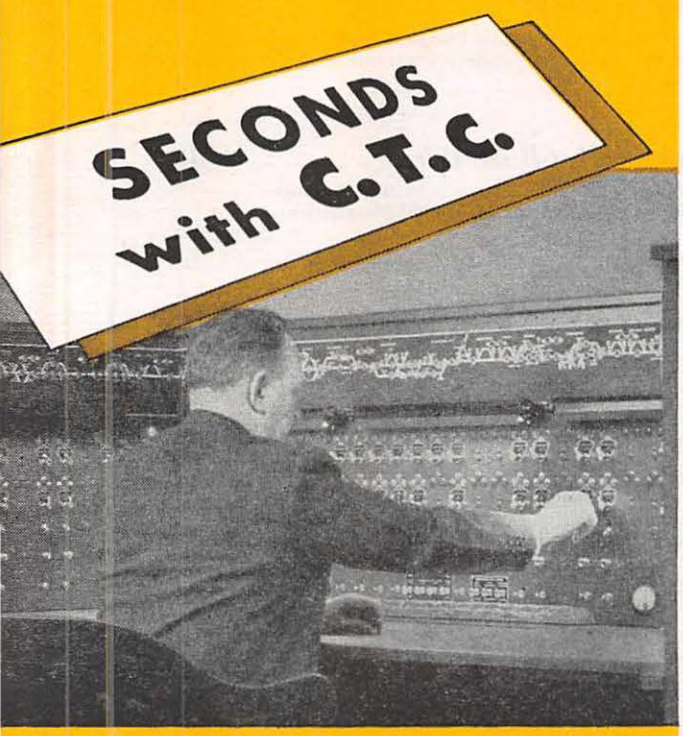
"It was physically impossible to get out train orders *Fast* enough"



This western railroad was accustomed to seasonal peaks of traffic and knew how to handle them.

After Pearl Harbor, traffic *every day* was in excess of previous peaks. Trains lost time waiting for instructions, for, as the division superintendent said, "It was physically impossible to get out written train orders fast enough to keep trains moving."



Today the volume of traffic is still greater, but it is moving smoothly, with minimum time lost on sidings because *"Union" Centralized Traffic Control is in service.*

Under the C.T.C. system, it takes only a few seconds to authorize a train movement. There's no slowing or stopping of a train to receive authority—the engineman gets his instructions by signal indication, at the point where he is to act upon them.

On dozens of American railroads, C.T.C. is easily dealing with situations which would have been impossible to handle under other methods of train operation.

UNION SWITCH & SIGNAL COMPANY

SWISSVALE, PENNSYLVANIA

NEW YORK CHICAGO ST. LOUIS SAN FRANCISCO

"UNION"

TRAIN OPERATION BY SIGNAL INDICATION

SAVES YOU MORE THAN IT COSTS

The Week at a Glance

MISLEADING WAGE FIGURES: Retirement Board "average" wages figures have again been used to confuse a wage case—as is reported in the account in our news pages of the arbitration hearing in the demand of the operating unions for wage increases. The Retirement Board does not count earnings above $300 a month in arriving at its "averages." The brothers seem to find the Pension Board figures useful in wage cases—which, possibly, is the purpose for which they were especially designed—but the brethren would doubtless believe they had a grievance if the railroads would play turn-about and seek to palm off some wage averages which excluded all the lower incomes. Railroad labor relations are inherently complex enough without having the trouble augmented by the introduction of misleading figures. The more such confusion is injected, the more difficult it is bound to be for arbitrators to get at the real facts necessary to attain just and righteous findings.

●

READING YARD RADIO: The Reading has made a yard radio installation at Wayne Junction in the north part of Philadelphia, and five Diesel switchers and the yard office have been equipped as a starter. How the innovation has been worked out as to equipment, and its practical operation, are described in an illustrated article elsewhere in these pages.

●

SEASONS TIES OVERNIGHT: A process is described in an illustrated article in this issue for seasoning ties and other timber—which does in days or even hours, a job formerly requiring months for its completion. The new process is not just faster—it is also subject to control—so that checks and splits can be reduced to a negligible amount both during seasoning and in service. Just to give a concrete idea of what this seasoning process does—it takes 5 gal. of water out of a red oak tie in 14 hours of treatment.

●

STEEL PRICE HIKE: One result of the "bulge" in the administration's hold-the-line policy appears in an account in the news columns of the increase in basic steel prices, averaging $5 per ton, or about 8.2 per cent, authorized by the Office of Price Administration. This price increase will apply to rail, while the approved advance is 25 cents per 100 lb. on such items as tie plates and structural steel.

●

STRIKE CALL: Following Railway Labor Act procedures, the trainmen and engineers have "voted" on the question of calling a nation-wide strike to enforce their demands for wage increases and various changes in "working agreements." The result was a strike call for March 11 and the three following days, which put the problem on the White House doorstep for appointment of an "emergency" board. A review of the situation up to the time this issue went to press appears in the news pages. (Meanwhile the Iillionis Central continues to operate under government "control"—no agreement having been reached to settle the "strike" on that road—and a separate emergency board had been set up to review a list of grievances which led to a strike call on the Texas & New Orleans.) In contrast to these militant activities on the part of two brotherhoods are the orderly arbitration proceedings whereby 18 unions and the railroads are working toward a resolution of their disagreement over wage rates.

●

A. R. E. A. MEETS AGAIN: Next week, on March 12-14, the American Railway Engineering Association will have a full-program annual meeting in Chicago—which it had to forego last year and also in 1943. The schedule of the sessions, showing committees reporting and speakers, appears on page 498 in this issue.

●

BOX CAR SPEED-UP: Letters and orders coming from Colonel Johnson in the past few days, through O. D. T. and I. C. C. channels, indicate that he is determined that the movement of grain to the ports particularly, and of commerce generally, is not going to be delayed by the short supply of box cars. This issue's news pages include a summary of recent service orders affecting the use and movement of grain cars. Along with the O. D. T. director's remark that Car Service Division Chairman Kendall has the responsibility for seeing that cars are made available is reported his 9-point program for the railroads to speed up freight car turnaround.

●

WHEELER'S HELPFUL VIEWS: Senator Wheeler's recent recommendation—in which he was joined by Senator Reed—that his interstate committee be authorized to conduct an inquiry into railroad reorganization procedures is signalized in the leading editorial herein as a development of first importance to the railroads' prospects for the future. Senator Wheeler has, heretofore, been pretty adamant in his high regard for the "wringer" as a sovereign remedy for railroad ills—but his report on the proposed inquiry shows that he has come to an understanding of the public interest in giving a fairer "break" to equity-holders in companies which have fallen into the hands of the courts. Since the restoration of investors' interest in stock issues is a necessary step in securing an adequate supply of capital for the railroads, the Senator's interest in action to this end can scarcely fail to be helpful.

●

R. R. YOUNG IS CRITICAL: The chairman of the Chesapeake & Ohio testified at some length in criticism of "banker control" of the railroads, before the Senate Committee on Interstate Commerce last week, and the Alleghany Corporation made available to the press a "release" containing a transcript of his testimony. This release is published practically in its entirety as an article in this issue. Competitive bidding and the disposition of the Pullman Company are only two of the controversial issues discussed therein.

ENGINEERING OUTLOOK: Our engineering editors have canvassed the engineering departments of the principal railroads to learn what maintenance and construction programs they have in hand for the current year, and a prediction of the total volume of such work for all railroads has been computed from this information. It looks like $300 million of new construction in 1946, or about the same as in 1945, and $1,280 million for maintenance, which would be 15 per cent less than in 1945. The results of this survey are set forth in an article in this issue.

●

C.P.R. STILL FLYING: The Canadian government has allowed the Canadian Pacific another year of grace for its air line operations, which have been under a death sentence since the Parliament two years ago enacted legislation to require the railroads to give up their aviation activities within a year after the end of hostilities in Europe. Officials would not admit, however, that the reprieve indicated any departure from the policy of eliminating the nation's railways from participation in the development of air transportation.

●

PER DIEM RATE STUDY: An investigation of per diem costs of freight car ownership, undertaken by the I. C. C. statistics bureau when the A. A. R. per diem rate was increased last year, is the subject of a review in the news pages herein. The commission's analysts found a number of points on which they disagreed with the A. A. R., the net result being their conclusion that, at least for the year 1943, the railroads' cost computations have resulted in per diem rates they consider too high.

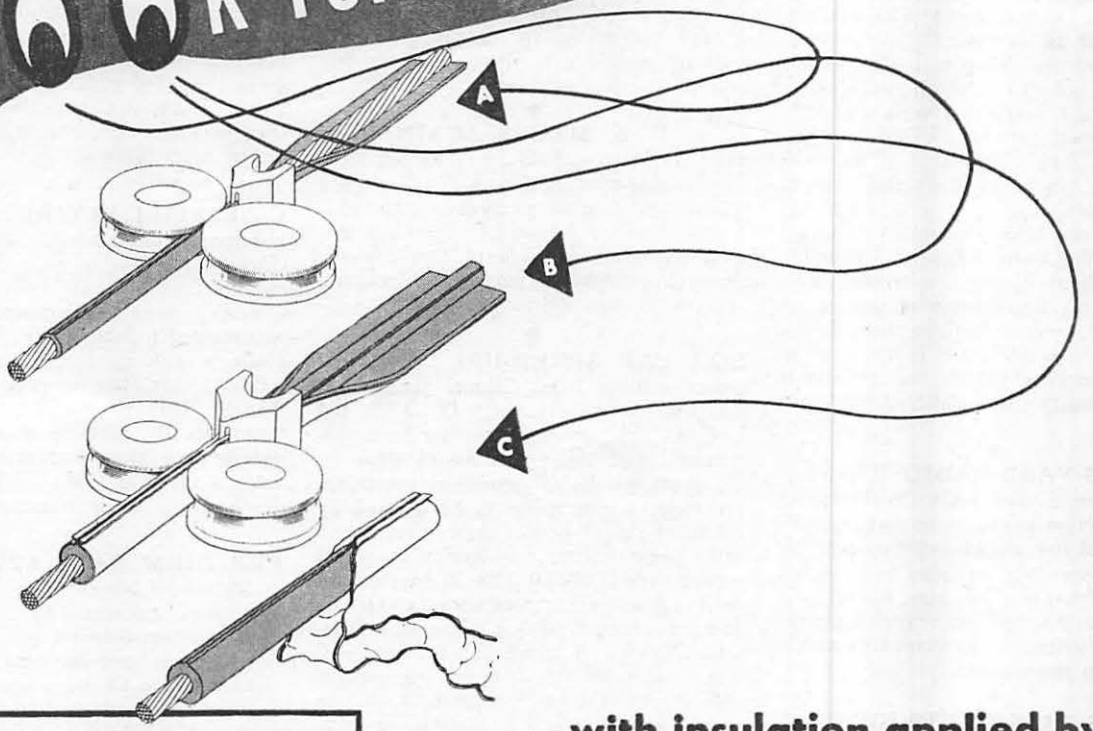
●

PULLMAN APPEAL: The Department of Justice has decided to prolong its battle against railroad control of the Pullman business for another round, the Attorney General announces, and is proceeding to file an appeal in the Supreme Court from the lower court's order confirming the sale to the railroads. As noted in the news pages, this action means that Pullman will continue to operate as at present, while the anti-trust lawyers, enjoying regular salaries from the public treasury, continue the litigation at their pleasure.

●

HOT-BOX ALARM: An article in this issue describes a practical hot-box alarm which the New York Central has developed by experiments and tests continuing over a period of 13 years. The alarm emits smoke to call attention outside the train to the misbehaving journal, and to locate it. It also gives out a distinctive and disagreeable odor within the train, betokening the rottenness of something in Denmark. The device consists of a couple of cartridges placed in cavities in the bearings. These cartridges melt at critical temperatures, and their contents vaporize, with the ocular and olfactory manifestations heretofore mentioned. Designed originally for friction bearings, the device is applicable also to roller bearings.

LOOK FOR LONGER CABLE LIFE



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Okonite's unique and widely-known strip insulating process gives wire and cable the physical properties and performance characteristics that mean longer and more effective life.

Inner strips of insulation are applied to conductors in the manner shown in Sketch A. The final layer is backed by tin (Sketch B) which forms a continuous metal mold. After vulcanization and the peeling off of the tin (Sketch C) every foot of Okonite has been simultaneously vulcanized at the same temperature and pressure.

. . . and insulation made with wild Up-River Fine Para rubber

This rubber is available for restricted applications . . . for those severe service conditions where wires and cables are to be installed in wet locations. Wild Up-River Fine Para is the only rubber ever used in Okonite insulation. Authorities pronounce it preferable to plantation rubber from the standpoints of uniformity, better aging and superior performance – and nearly 70 years of field experience have shown this to be a fact.

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4479

RAILWAY AGE

Wheeler Brightens the Railroads' Prospects

From the standpoint of the public interest, the "railroad problem" boils down to a question of the industry's supply of capital—that is: Will the railroads in the years which lie ahead be able to lay their hands on investment funds in sufficient amount to insure the continuance of a quantity and quality of service commensurate with the needs of commerce and the national defense?

All other questions and controversies about the railroads are subsidiary to the problem of an adequate supply of capital for them, because, unless it is solved satisfactorily under private ownership, either (1) some form of government ownership of railroads must be resorted to, or (2) the production and defense of the country must suffer from the lack of modern railroad transportation. Since neither of these alternatives is acceptable to an overwhelming majority of Americans, it follows that the country cannot indefinitely avoid taking the steps necessary to restore the railroad industry's attractiveness to the investing community.

An Unrealistic National Policy

From the point of view of a practical defender of the public interest, this question of procuring an adequate supply of capital for the railroads overrides all other transportation issues, especially the casuistic arguments to the effect that highway users "pay their share" of highway costs; or in favor of toll-free waterways. However plausible such contentions may be made to appear, the fact is that there was no *net* addition to railroad investment throughout the entire decade of the 'Thirties —and relatively little since then—while highway and waterway improvements boomed during those years, and now promise to mount to even higher levels. Yet war experience showed that, in a time of maximum traffic demand and maximum necessity for the conservation of man-power and materials, the country had a large surplus of waterway and highway capacity, while railroad facilities were crowded to the point of exhaustion. A national policy toward transportation which, at a time of national peril, yields an oversupply of facilities not imperatively needed, while it induces a dangerous shortage of the kind of plant vitally necessary to national production and defense, is so unrealistic that it cannot persist much longer.

All it takes to get waterways and superhighways, in any quantity whatever, is votes—but the privately owned railroads can improve their properties only to the extent that such expenditures are made attractive to investors. The type of investment security all important to the future capital supply of the railroads is stocks —not bonds. Railroad stocks have been selling recently at less than 65 on the Dow-Jones average, in a market where most values are highly inflated, which is to say that the best indicator there is of the health of the railroads' capital supply continues to give a mighty discouraging reading.

The reason why stocks and not bonds are the practical gage of the railroads' ability to obtain new capital is that the experience of the 'Thirties makes it inexpedient and perhaps impossible for the railroad industry ever again to increase the ratio of fixed-interest indebtedness to their total investment. The recent extraordinarily high prices of railroad bonds stem beyond question from the shrinking quantity of such issues rather than from a sudden rise in optimism regarding prospective overall railway earnings. Even if investors were willing to advance large sums for railway betterments in return for new issues of fixed-interest, fixed-maturity bonds, railroad managements, after their experience of the 'Thirties, would be slow to take advantage of such an opportunity.

The "Wringer" No Panacea

As a matter of fact, judging from past experience, actual capital expenditures by the railways will probably be made, predominantly, from earnings. But relatively high prices for stocks, and the general tone of optimism which they engender, are necessary in order to encourage managements to invest available earnings in improvements rather than to hoard them against a "rainy day," or to use an inordinate proportion of them in the reduction of indebtedness. During the decade from 1920 to 1930, net property investment in the railways increased by $6 billion, while net capitalization (stocks and bonds) increased only a little more than $2 billion. In other words, an investment of $4 billion was made from earnings—but during the part of that period when new investment was most active (1924-29) railroad stocks never sold for less than 80 on the Dow-Jones average and attained a peak of 189.

In sum, the problem of an adequate capital supply for improvements to fixed plant is *the* railroad problem from the standpoint of the public interest (the matter of equipment financing presenting relatively few diffi-

culties). The barometer which tells whether this problem is being solved or not is the average market price of railway stocks—and this gage reveals that conditions, while improved, are still far from satisfactory.

It is for this reason that the report by Senators Wheeler and Reed on S. Res. 192 calling for a Senate investigation into railroad bankruptcies (see *Railway Age,* February 16, page 376) is an encouraging development of the highest importance. There are many factors which have depressed the prices of railroad equity securities, but the two most important have been (1) the policy of government in providing facilities of unpredictable magnitude for competing transportation and (2) the policy of the Interstate Commerce Commission, under Section 77 of the Bankruptcy Act, of wiping out equity securities in reorganizations, despite the demonstrated post-depression earning power of these securities.

The House of Representatives by its passage of the Hobbs Bill (*Railway Age,* February 17, 1945, page 357) has shown its disposition to correct this obvious injustice, but Senator Wheeler, in his powerful position as chairman of the Senate Committee on Interstate Commerce, was an early and thoroughgoing advocate of the "wringer" theory as a panacea for all the railroads' troubles, and he has been slow to modify his opinion. The unsoundness of this position and the necessity in the public interest of dealing more equitably with stockholders in reorganizations has been repeatedly demonstrated in these pages for the past five years. Now, in his report on S. Res. 192, Senator Wheeler also faces the facts which demonstrate the unrealism of Section 77's provision for equity-holders, as interpreted by the I. C. C., and recognizes the public interest in restoring the opportunity of these securities to enjoy the earning power which inheres in them.

There appears now to be no major political obstacle in the way of a solution to one of the two principal depressants of railroad stock prices; and, as a consequence, the nation's prospects for an adequate railroad system to meet its future needs have perceptibly improved.

George Westinghouse—Leadership in Retrospect

Speaking at a convocation in celebration of the centennial of the birth of George Westinghouse, held under the auspices of the American Society of Mechanical Engineers at New York on February 26, F. D. Newbury, vice-president, Westinghouse Electric Corporation, took Mr. Westinghouse's strong characteristics as a pioneer and individualist as his text for a penetrating discussion of the social and political trends of the day. "In our conflicting society," he said, "with its division of labor and its free exchanges of the products of labor, there are certain essentials without which our society can not function. There is a minimum of individual responsibility, a minimum of cooperation, and a minimum quality of leadership below which we can not go and preserve a functioning society under our complicated modern conditions. . . . We have moved a long way from the individualism of George Westinghouse—from faith and confidence of individuals in private enterprise toward the planned economy of all-powerful governmental controls and the subordination of the individual to the state. . . . Cooperation between employers and employees, between business men and the public, has been systematically undermined by government and labor-union propaganda."

George Westinghouse is best known to the transportation field for his invention and development of the air brake and the friction draft gear, and for his contributions to the advancement of signaling and interlocking. In the electrical field his name is most widely associated with the development of the alternating-current system of electric power generation and transmission. Other qualities of his greatness to which Mr. Newbury directed attention were his personal simplicity and humanity. These qualities are by no means without recognition, but their real significance is less well understood than are the more tangible results of his genius as an inventor and promoter.

Mr. Westinghouse's sense of responsibility for the men working under his leadership apparently never flagged. But, unlike too much of the so-called welfare work of industrial institutions, his efforts in behalf of the employees of his enterprises were not paternalistic; they were designed to help men to help themselves. In a word, his leadership was of a quality to inspire faith in the men who worked under his leadership.

The complexity of our industrial life contributes to the difficulties of maintaining satisfactory industrial relations founded on mutual confidence. It must be said, however, that the widespread suspicion in which industrial welfare measures have come to be held are in some degree justified as having been instituted more for the dividends they are expected to pay than from a sincere interest and understanding of the feelings of the employees. One of the common qualities of all human beings is a desire for appreciation and recognition. A great source of the discontent of industrial employees is too much frustration at this point. It is a source of irritation which has prepared the ground for the demagogic political and labor-organization leadership with which business and industry have been plagued for half a generation. Westinghouse's simple humanity served his employees, his business, and the nation well in his day.

What Weight of Rail?

For 100 years the average weight of rail in the tracks of the railways of the United States has increased steadily. Reasons for this trend include the need for supporting increasingly heavier wheel loads and of providing safe operation at higher speeds. Also, the heavier weights of rail were economical, because their greater girder strength helped to distribute the wheel loads and materially reduced the cost of maintaining tracks to the degree of surface required. The increased stiffness of heavier rail also reduced train resistance and permitted more economical operation.

The trend toward heavier rail has now progressed to a point where rail as heavy as 131 lb. is common in

main-line tracks, and at least two roads are using 152-lb. rail in certain locations where service conditions are particularly severe. Whether rail heavier than 131 lb. will come into general use is problematical. In some quarters it is held that still heavier rail can be justified on the grounds of economy, riding comfort and other factors. In others, however, it is felt that there is not much to be gained by going higher than 131 lb. In fact, on one large road, on which the main lines are now laid with 131-lb. rail, it was decided recently that no further increase would be made in the weight of rail for such lines, but that, instead, greater emphasis would be placed on roadbed stabilization.

Although it is thus a debatable question whether the maximum weight of rail in use will continue to increase, there is less question regarding the advantages to be gained by a more general application of the existing heavy sections, for there are still many main-line districts laid with rail in the 90-112-lb. range. Superficially, it may appear that, because of recent trends in rolling stock and other factors, it is more difficult today than formerly to justify the use of heavy rail. These trends include the advent of Diesel power, the use of lighter reciprocating parts on steam locomotives (resulting in reduced impact from driving wheels), increasing emphasis on the use of lightweight passenger equipment, with many signs of a similar trend in freight cars, and developments, such as control-cooled rail and the wide acceptance and use of rail detector cars, that have made tracks and rails safer than ever before.

While these trends are important and will bear watching, sight should not be lost of certain factors on the other side of the balance sheet, such as the absence of any sign of a reduction in the maximum weight of steam power, the influence of the loads imposed by small-diameter wheels under large tenders, and the fact that present maximum freight-car axle loads will continue to prevail indefinitely. Further, in view of the trend toward higher wages, the question of economy in track maintenance, which studies have shown to be enhanced by the use of the heavier rail sections, is looming larger today than ever.

Longer Service Life Now Obtained

One of the most penetrating studies made in recent times to determine the most economical weight of rail to be used was that conducted by A. N. Reece in 1928, at that time chief engineer of the Kansas City Southern, which was published in the A. R. E. A. proceedings for 1930, volume 31, page 1495. This research concluded that the most economical weight of rail for use on the Kansas City Southern at that time would be a 137-lb. section. That study, however, was based on an assumption that the life of rail in main tracks was limited more or less by rail-end batter at the joints, a factor which militated against the heavier sections. With the practical development of rail-end hardening and welding, a much longer service life can now be obtained from the heavier rail sections. This factor, together with the trend towards higher labor costs, indicate that possibly an even heavier rail section can be justified today than when the study was made.

This problem is worth careful study and consideration on each individual road. Despite lighter wheel loads and better rail, managements should not be "penny wise and pound foolish," where expenditures for heavier rail *can* be justified. It is quite possible that there are many heavy-traffic main lines still laid with rail weighing 112 lb. or less, for which consideration of 131-lb. rail, or even a heavier section, can be strongly recommended.

Why Stay So Secretive?

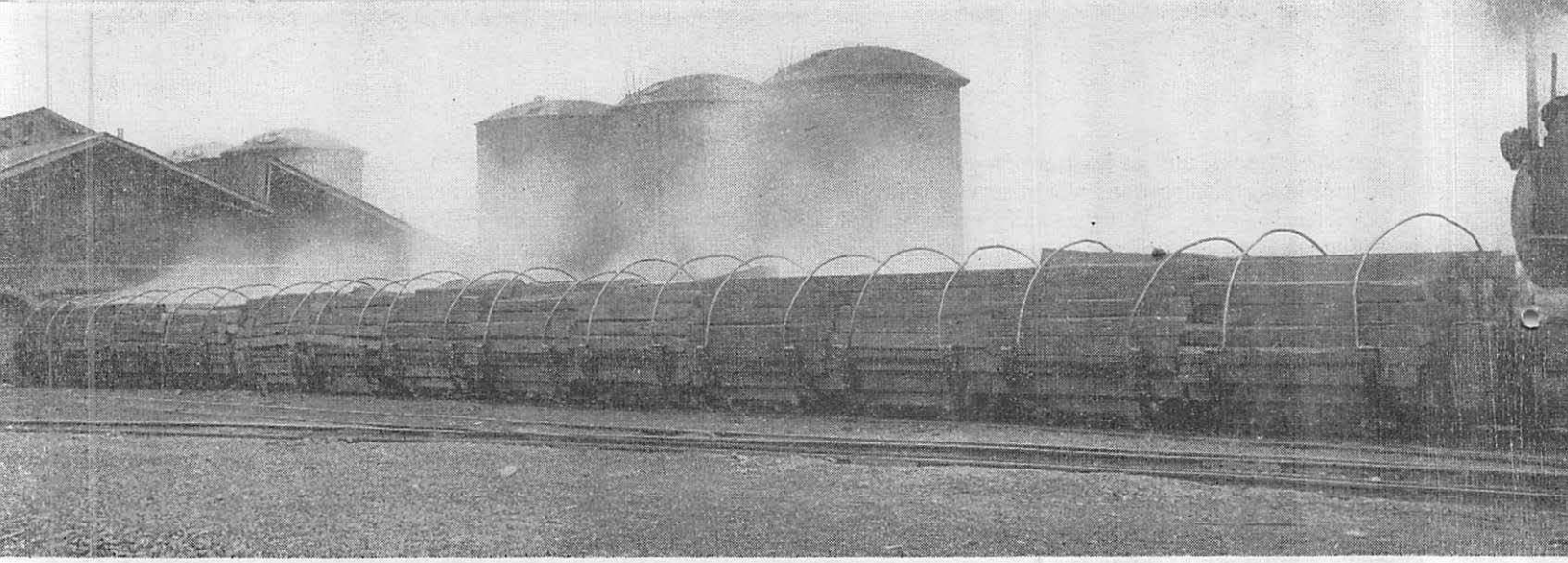
It doesn't seem possible, but it is unfortunately true that, despite the fact the war has been over for more than six months and that the restrictions of war-time censorship have long since been abolished as a matter of national policy, some railway officers and employees continue to be as secretive about their activities as if invasion or bombing were imminent. This is definitely contrary to the interests of the railways, and especially in view of the fact that their competitors are dramatizing every item of news in their respective fields to gain public attention—and are getting it.

Complaint of this situation was voiced in eloquent terms by a representative of the press in a communication which appeared in the *Railway Age* for January 26, and there is reason to believe that it had a beneficial effect. When some railway officers, both at headquarters and out on the line, continue to question whether it is permissible for a reputable editor to take photographs of interesting railway work, and refuse to name even some of the most interesting construction projects authorized or under way—as is actually the case—it is evident that the complaint is well-grounded.

In the instances noted, the railway officers were willing, personally, to co-operate in complying with the requests made of them, but were still acting under orders issued by their managements early in 1942, which they say have never been rescinded. To the extent that they were following instructions to the letter, these men were acting properly, but to the extent that they were applying their orders as rigidly months after the cessation of hostilities as during the most critical period of the war, their judgment may be questioned. For failure to rescind such restrictive orders, what excuse can there be?

This is not a selfish complaint by *Railway Age* which, when questions are raised as to the presence of its representatives on railroad property, can usually straighten the matter out with little inconvenience or delay. We are speaking instead in behalf of other reputable news gatherers about the country, with a reader clientele, all potential customers of the railways, running into millions.

The railways have a story to tell—a story of outstanding achievement, of initiative, and of progress—a story more colorful and absorbing than is available in any other industry. It is a story which, in its fullness, can be told adequately only in thousands of widely varied stories and in thousands of publications. It is self-evident that not all of these stories can originate with or even pass through the hands of public relations officers. Railway officers should be encouraged to give out legitimate news, rather than to suppress it, or the railway story will never be told as it should be told.



Approximately 4,000 gallons of water were removed overnight from this charge of some 800 red oak crossties by Taylor-Colquitt's new vapor drying process. The charge has just been removed from the cylinder after vapor drying and creosote treatment at T-C's commercial plant at Spartanburg, S. C.

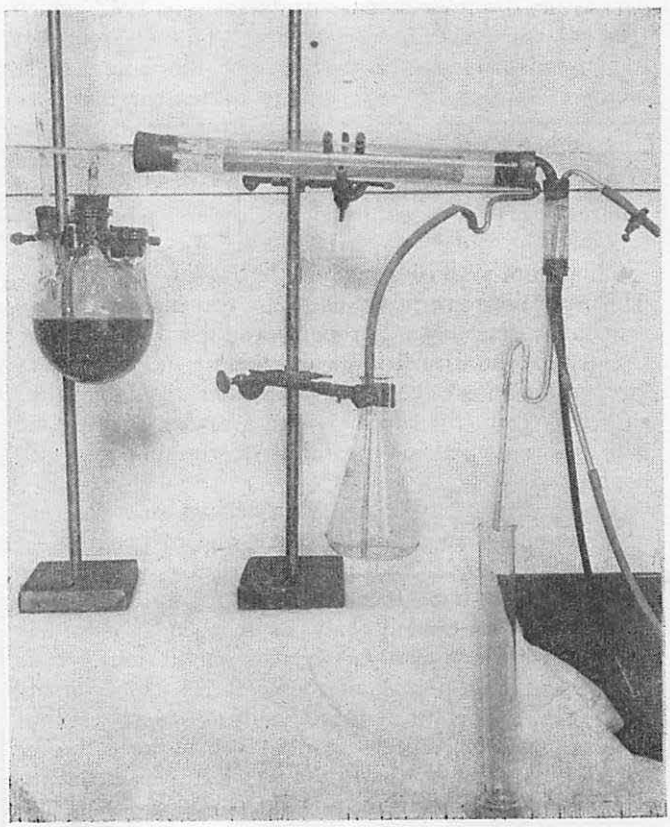
New Process Seasons Ties Overnight

Intensive research, the operation of a full-scale pilot plant plus two years' service in track also have proved the practicability of vapor drying for poles and lumber

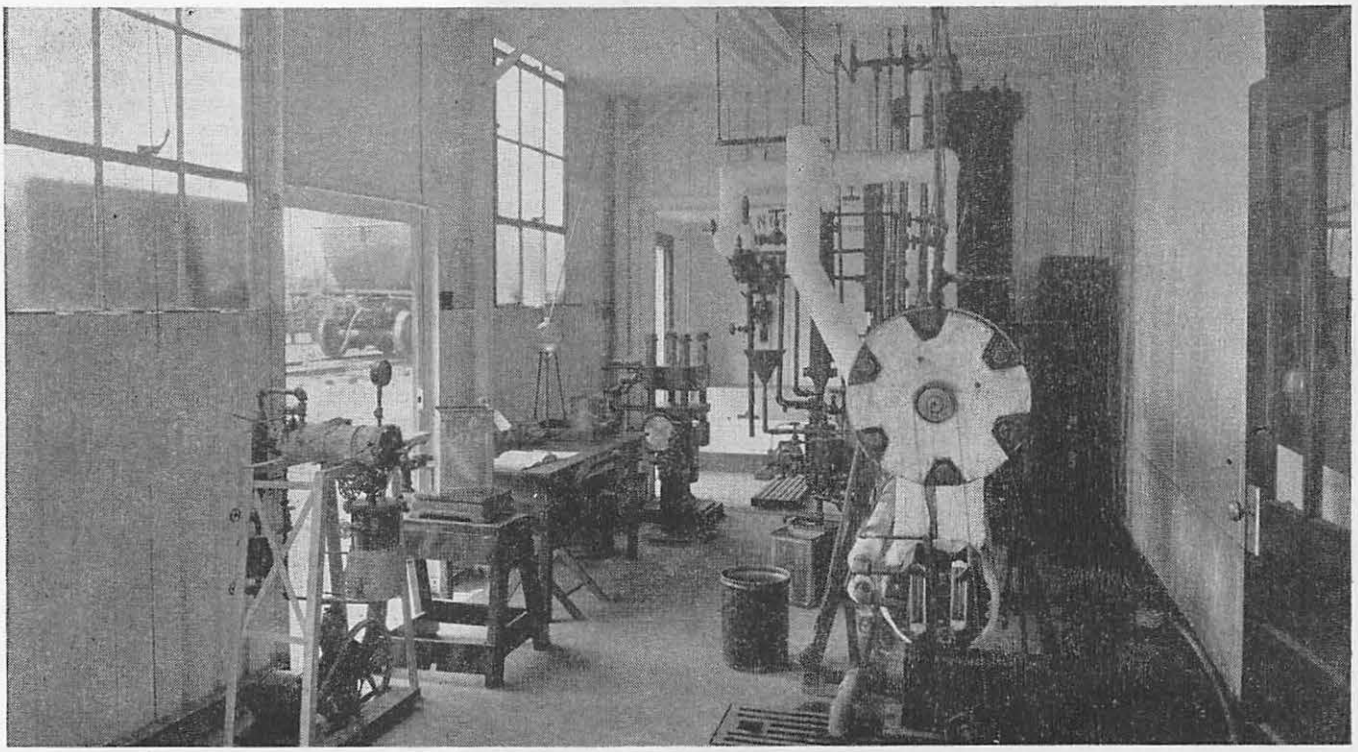
PART I

CHALK up another score for science in speeding the production and treatment of railway crossties—because overnight seasoning is now an accomplished fact! Not only does Taylor-Colquitt's vapor drying process promise faster and more efficient seasoning for crossties, poles, piles, timber and lumber, but it also can be controlled to reduce seasoning checks and splits to a negligible factor, and to prevent their occurrence during subsequent service, as demonstrated by periodical observations of vapor dried crossties in test track during the last two years.

As the product of more than six years of intensive research, developed in one of the most modern pilot plants for wood preservation in the country, the T-C vapor drying process opens up an entirely new conception of tie production: one in which the time from the stump, through the treating plant to the track, has been reduced to a matter of days compared to months and years under orthodox procedures. The new process will remove as much moisture overnight from green red oak crossties as

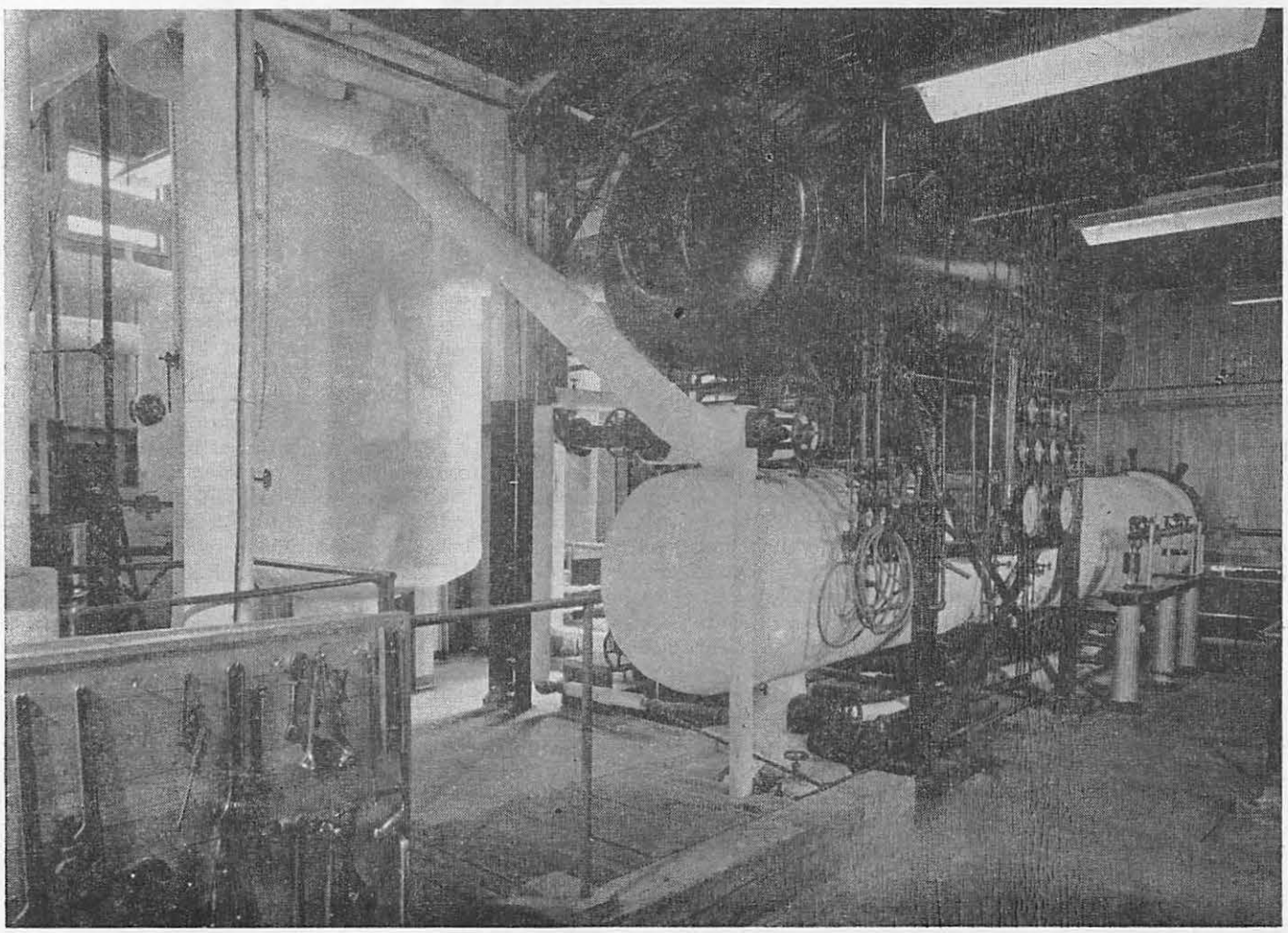


This simple laboratory drying unit clearly illustrates basic principles involved. After the organic drying agent is heated to its boiling point in the evaporator (left), its vapor is led to a horizontal cylinder or drying chamber where it gives up its latent heat to distill water from the green wood. Any excess drying agent flows to the condensate flask (center). Vapor from the drying chamber passes to a condenser (lower right) where water is separated from the organic drying agent by gravity



Progressing from the glassware stage, the next step in T-C Vapor Drying led to the development of a small laboratory unit, shown above at the left near the doorway; the pressure gage is attached to the drying chamber. Results were so encouraging that a larger experimental unit equipped with a 16-in. by 72-in. cylindrical drying chamber was installed in the Spartanburg laboratory in 1940. This unit appears at the right with its evaporator immediately beneath the drying chamber

Interior of Taylor-Colquitt's elaborate pilot plant. The large white vertical cylinder in the background at the left is the evaporator. The 3-ft. by 26-ft. drying and treating cylinder is at the right and is completely equipped for Rueping treatment



A. R. E. A. to

Three-day session to be held March 12-14 at Palmer House—Program will include reports by 18 committees on 86 subjects, as well as a number of addresses on topics of special interest at this time

ENGINEERING and maintenance of way and structures officers of the railways of the United States and Canada will meet in Chicago, March 12-14, under the auspices of the American Railway Engineering Association, to consider, for the first time as a group since the war ended, the multitude of peacetime problems facing them. This will be the forty-fifth annual convention of the A. R. E. A. With it, the association will resume the practice of holding annual meetings, which was interrupted twice during the war, first in 1943, and again in 1945, when it was necessary to cancel the annual meetings because of war-time conditions.

The meeting will convene at 9:45 a. m., Tuesday, March 12, and will adjourn at noon on Thursday. The sessions on Tuesday and Thursday will be held in the Grand Ballroom of the Palmer House. On Wednesday, in order to permit the use of the Grand Ballroom for the annual luncheon, both morning and afternoon sessions will be held in the Red Lacquer room on the same floor.

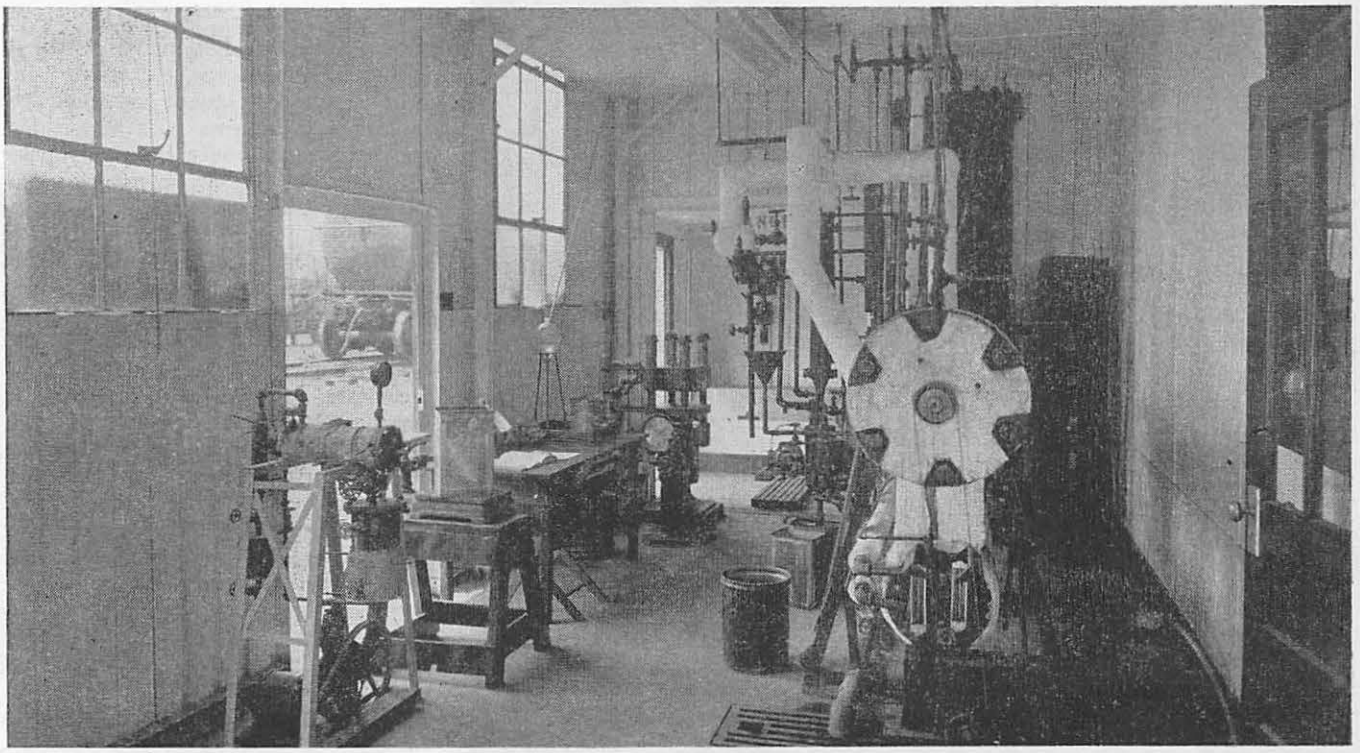
In line with customary practice, the sessions will be devoted in large part to the presentation and consideration of the reports of the association's standing committees. Specifically, reports will be presented by 19 committees on a total of 86 subjects covering a wide range of problems confronting engineering and maintenance officers. However, these will be liberally interspersed with addresses on a variety of subjects of special interest at this time. In addition to the address of the president and reports of the secretary and the treasurer, the opening session on Tuesday will be featured by addresses by C. E. Johnston, chairman, Western Association of Railway Executives; by E. W. Reich, chairman, Signal section, A. A. R.; and by J. M. Trissal, chairman, Electrical section, A. A. R. In the final phase of the opening session, honorary memberships in the association will be presented to Ralph Budd, president, Burlington Lines, and J. M. R. Fairbairn, retired chief engineer, Canadian Pacific.

Six committee reports will be presented during the afternoon session on Tuesday. Aside from these the program of this session will include two addresses, each keyed to one of the committee reports. Specifically, the report of the Committee on Cooperative Relations with Universities will be followed by an address by Henry T. Heald, president, Illinois Technological Institute. Similarly, the report of the Committee on Highways will be followed by an address by J. R. Tenney, chairman, Committee on Highway Crossings, Safety section, A. A. R., whose subject will be: A Campaign for Caution at Highway Crossings.

Following the regular sessions on Tuesday, the A. R. E. A. group will be invited to attend an evening meeting of the Western Society of Engineers, at which a program will be presented of special interest to railroad men. The speaker will be O. M. Stevens, president and general manager, American Refrigerator Transit Company, and formerly chief, United States Railway Mission to Mexico, whose subject will be: Lessons We Can Learn from the Government-Owned Railways of Mexico.

Sponsored by its Transportation Engineering section, the meeting of the Western Society of Engineers will be held on the sixth floor of the Civic Opera Building at 7:00 p. m. This is not a dinner meeting and there is no admission charge. The Civic Opera Building is located at 20 N. Wacker Drive, being six blocks west and one block north from the State-Monroe corner of the Palmer House.

The next, or March 16 issue of the *Railway Age*, designated the A. R. E. A. Convention and Exhibit-in-Print number, will contain a complete report of the annual meeting, including abstracts of all the committee reports and addresses to be presented at the various sessions and of the comments made in discussion from the floor.



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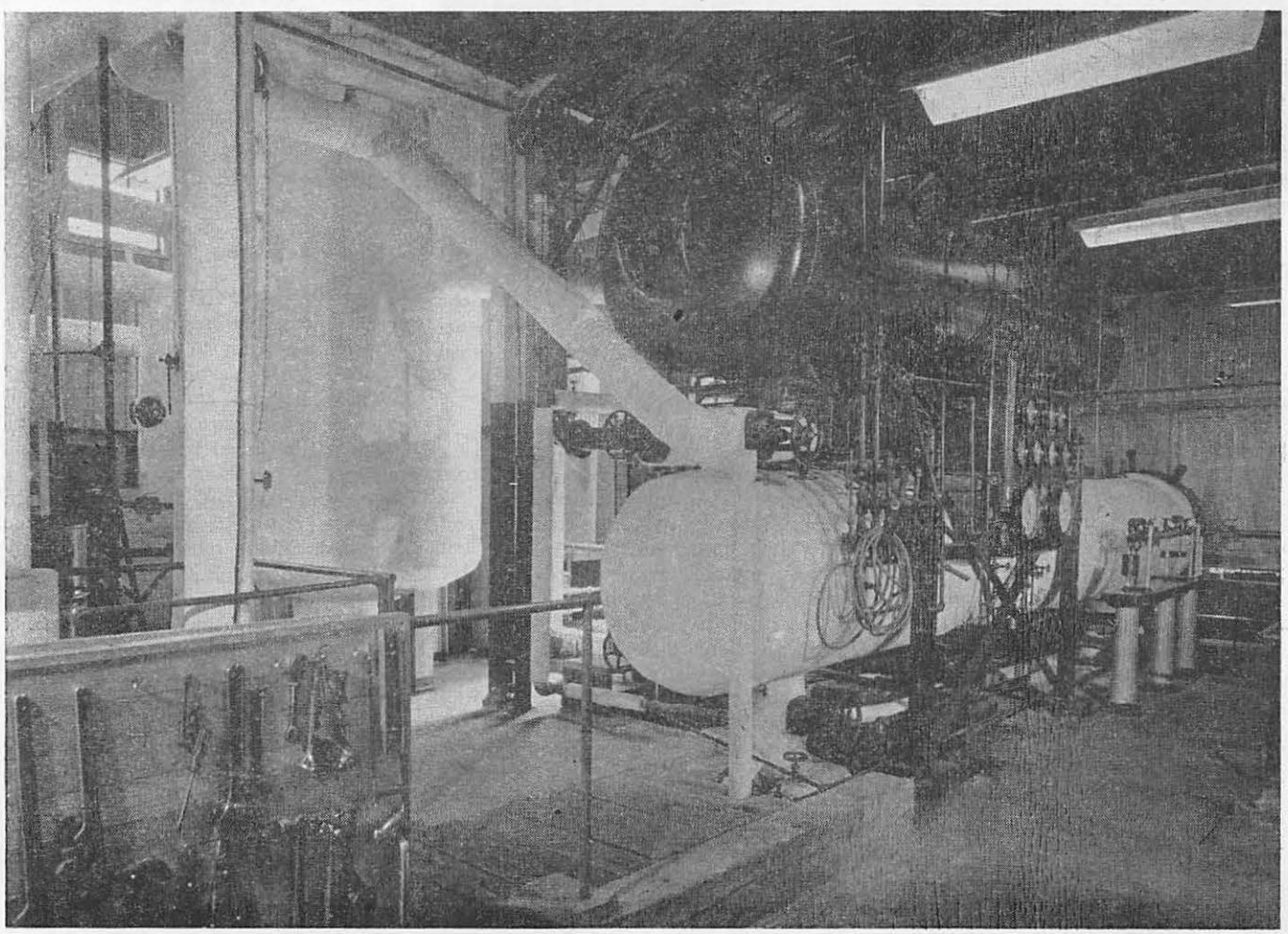
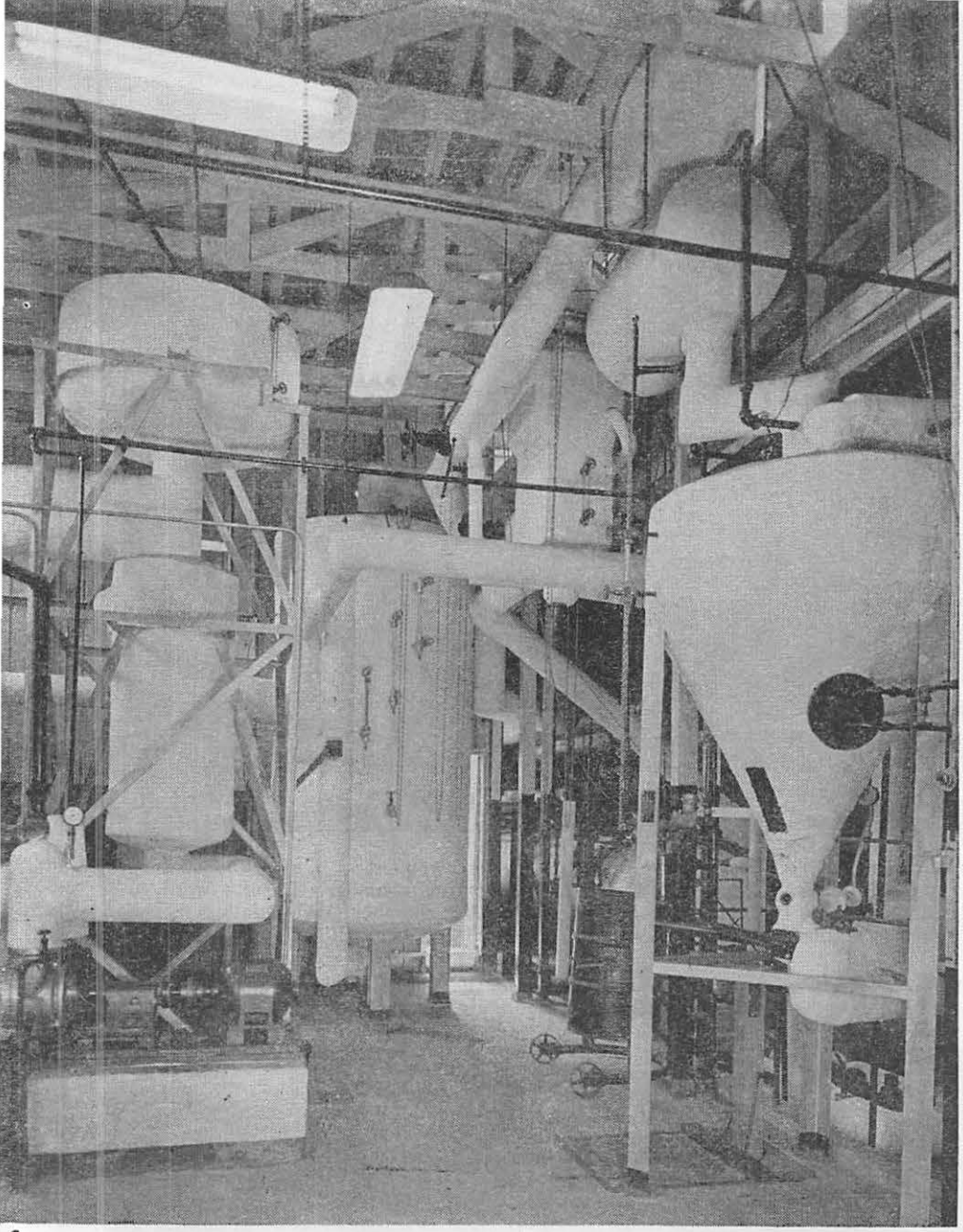




Another view of the interior of the pilot plant. The evaporator is the large cylinder in the central background, the condenser is near the roof trusses in the right foreground with the funnel-shaped separator beneath it and to the right. Glass observation ports and spotlights are provided to allow observers to follow the process as water collects in the separator, and a platform scale beyond the steel framework in the foreground is used to weigh the water removed from wood

it is possible to evaporate throughout 15 months of air seasoning by ordinary methods.

Four thousand gallons, more than 16 tons, of water have been removed from individual charges of 800 red oak crossties during 14 hours of vapor seasoning in Taylor-Colquitt's newly equipped commercial plant at Spartanburg, S. C. The average moisture content of the ties is reduced approximately 30 per cent during the process. Because of their freedom from checks and splits, the vapor dried ties stand out in sharp contrast with 15-months air seasoned stock of the same species and from the same general production territory.

Not only does the new vapor drying process promise the elimination of huge air seasoning yards with their large stocks of ties, sometimes as many as 3,000,000 crossties and millions of feet of switch timber on a single yard, but it also will foster the more extensive use of species of wood that are subject to early decay during air seasoning. Gum ties, for instance, may now be treated while the wood is in its prime and without the feeling of uncertainty that frequently is interjected despite the most careful measures that may be adopted to prevent infection and decay during air seasoning.

Realizing the many difficulties attending air seasoning and low temperature processes designed to condition green or partially seasoned timber and wood products, principally because of the long time element involved and the lack of adequate control over checking and splitting, Taylor-Colquitt undertook preliminary experiments with vapor drying in its Spartanburg laboratory prior to 1940. As this work progressed it passed from the glassware stage to the development of a small experimental unit equipped with a 16-in. by 72-in. cylindrical drying chamber that in turn led to the building of a full-scale pilot plant in 1942.

Completely equipped, the pilot plant includes a pressure cylinder 26 ft. in length and 3 ft. in diameter, which is used alternately as a drying and treating chamber for processing cross and switch ties, poles, piles, timber and lumber. With its electrically heated evaporating unit, condenser, separator and complete electrical control, measuring and weighing devices for vapor drying as well as its complete equipment for Rueping treatment, the Taylor-Colquitt pilot plant is one of the most elaborate experimental wood preservation plants in the country.

Conditioning results obtained from the very first charges treated in that pilot plant indicated the potentialities of the process that later were attested by the marked freedom from checking as evidenced by vapor dried and creosoted red oak crossties compared to air seasoned specimens of the same species and from the same territory after two years of service in test track on the main line of the Asheville division of the Southern. The successful development of vapor drying led to equipping a regular commercial creosoting cylinder 8 ft. by 115 ft. at the Spartanburg plant and the work was completed in 1945.

Conversion Not Costly

Because comparatively little additional equipment is necessary to adapt a standard treating plant to the vapor drying process, the alterations are relatively simple and may be completed at nominal cost. For instance, Taylor-Colquitt's commercial plant at Spartanburg is now equipped to condition wood products by the new process and to follow through with preservative treatment in the same cylinder without removing the charge until the completion of both procedures. The only additional equipment required in this instance included a condenser, a separatory tank, a condensate return tank and pump, because the existing preservative storage or Rueping tank was converted to an evaporator.

Basically, the application of the vapor drying process consists of exposing green or partially seasoned wood products within a closed chamber, to high-temperature organic vapor which heats the wood and rapidly vaporizes the water that it contains. The drying chamber is provided with means of removing

the moisture continuously in the presence of a saturated atmosphere of the inert organic gas that is devoid of moisture and oxidizing influences. Hence there is no opportunity for charring or hydrolysis to occur at the high temperature promoted by rapid drying which proceeds without any detrimental effect to the wood. The process employs two principles of heat transfer: (1) A relatively high temperature range, heretofore limited to drying thin veneer where brief exposure precluded deterioration of the wood, and (2) the exposure of green wood to condensing vapors that accelerate drying by liberating large quantities of latent heat without injury to the wood as condensation takes place.

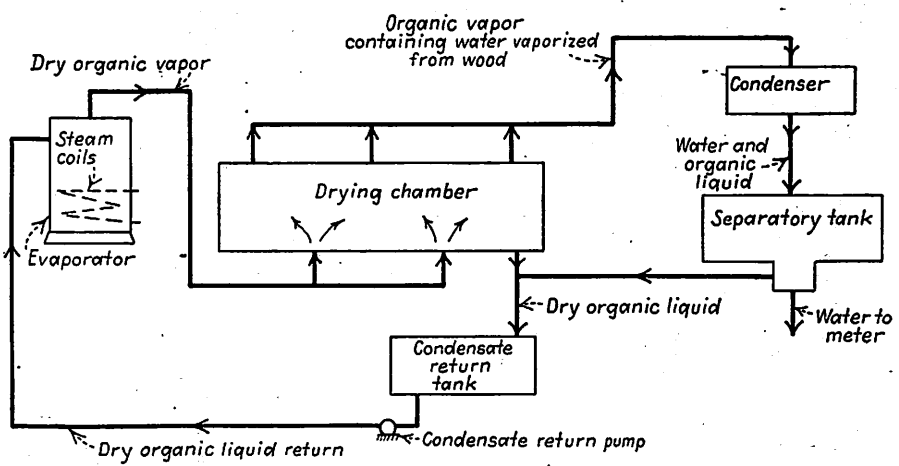
When wood is heated in steam or air or in a mixture thereof, to a range above the boiling point of water but below the point of thermal decomposition of wood (212 deg. F. to about 400 deg. F.), the chief causes of its deterioration are hydrolysis from the action of the steam and oxidation in the presence of air. The new process eliminates these factors because the drying takes place in an inert atmosphere of organic compounds that serve to transmit heat to the wood which is being seasoned.

Process Relatively Simple

The accompanying flow diagram illustrates the general relative arrangement of the equipment and the operation of the process. The drying agent is heated to its boiling point by any suitable means, such as a steam coil used in Taylor-Colquitt's commercial plant, and the vapor is introduced to the lower part of the drying chamber at several different points to assure even distribution. When first it comes in contact with the wood, the vapor condenses upon the cold surfaces and gives up its latent heat of vaporization to distill the water in the wood. Any excess organic liquid that is not absorbed by the wood flows to the condensate return tank, from which it is pumped back to the vaporizer to begin the cycle again.

As heating continues, the temperature in the heating chamber rises rapidly until it approximates that of the vapor in the evaporator. As the surface temperature of the wood increases the line of organic vapor condensation retreats beneath the wood's surface and the flow of organic condensate from the cylinder decreases. When the temperature of the drying chamber and the wood approach the boiling point of the organic liquid, an excess of the organic vapor collects within the drying chamber and is forced by incoming vapor from the evaporator into the discharge manifold and thence into the condenser. This vapor carries with it water that has been distilled from the wood and the mixed condensate is led into a separatory tank, where gravity induces separation of the two liquids. The organic liquid is conducted to a condensate return tank from which, after joining the condensate from the cylinder, it is pumped back to the evaporator to be revaporized.

The separated water is passed through a meter which is read periodically to determine the progress of drying and the process is continued until the moisture content of the wood has been reduced to the desired minimum. Because at the end of the drying period the wood contains a large quantity of the liquid drying agent which has condensed during the process, and because both are at a temperature high enough to permit vaporization of the organic liquid upon application of a vacuum, the inflow of vapor is stopped by closing a valve and a vacuum is drawn on the drying chamber and its contents. The organic liquid thus removed is recovered and the dry wood, now virtually free from the drying medium, is ready for preservative treatment or for removal from the drying chamber.



FLOW DIAGRAM OF TAYLOR-COLQUITT'S VAPOR DRYING PROCESS

Selection of a Compound

The circulation of the organic vapor through the drying chamber usually is conducted at atmospheric pressure and the desired operating temperature is obtained by selecting an organic compound whose boiling point at atmospheric pressure is equivalent to the temperature desired. For example, to maintain a temperature of 280 deg. F. at atmospheric pressure in the drying chamber, the chemical compound xylene, whose boiling point at atmospheric pressure is 280 deg. F., might be used; if a temperature of 330 deg. F. were required a coal-tar distillate known as high flash naphtha would be satisfactory. If a temperature of 240 deg. F. is required and xylene is the only available drying agent, the conditioning may be accomplished by conducting the vaporization and circulation of xylene through the system under a vacuum of about 14 in. of mercury, which is the pressure at which xylene boils at 240 deg. F. Thus a single organic compound permits a wide range of temperatures through the adjustment of the pressure conditions in the vapor drying chamber. This flexibility, coupled with the fact that a large number of commercially available organic liquids with widely varying boiling points are satisfactory for use in the vapor drying process, extends the available temperature range considerably. Choice of the temperature to be used is governed by the operating temperature of the process steam available at a given plant, and the availability of the drying agent in that locality.

High Temperature Not Injurious

Since the application of the vapor drying process involves exposing the wood to an atmosphere that does not attack it, an atmosphere which will not cause deterioration by oxidation because no oxygen is present; and, because that atmosphere is virtually free from steam that might cause deterioration by hydrolysis, the drying process can be carried on on the relatively high range between 212 deg. F. and 400 deg. F., without injuring the wood. The only steam present in the drying atmosphere is that produced by distilling water from the wood and hydrolysis is prevented because the steam is kept at a very low concentration by the large volume of incoming dry organic vapor.

This is the first of two articles describing the Vapor Drying Process. The second will appear in next week's issue of Railway Age.

A. R. E. A. to

Three-day session to be held March 12-14 at Palmer House—Program will include reports by 18 committees on 86 subjects, as well as a number of addresses on topics of special interest at this time

ENGINEERING and maintenance of way and structures officers of the railways of the United States and Canada will meet in Chicago, March 12-14, under the auspices of the American Railway Engineering Association, to consider, for the first time as a group since the war ended, the multitude of peacetime problems facing them. This will be the forty-fifth annual convention of the A. R. E. A. With it, the association will resume the practice of holding annual meetings, which was interrupted twice during the war, first in 1943, and again in 1945, when it was necessary to cancel the annual meetings because of war-time conditions.

The meeting will convene at 9:45 a. m., Tuesday, March 12, and will adjourn at noon on Thursday. The sessions on Tuesday and Thursday will be held in the Grand Ballroom of the Palmer House. On Wednesday, in order to permit the use of the Grand Ballroom for the annual luncheon, both morning and afternoon sessions will be held in the Red Lacquer room on the same floor.

In line with customary practice, the sessions will be devoted in large part to the presentation and consideration of the reports of the association's standing committees. Specifically, reports will be presented by 19 committees on a total of 86 subjects covering a wide range of problems confronting engineering and maintenance officers. However, these will be liberally interspersed with addresses on a variety of subjects of special interest at this time. In addition to the address of the president and reports of the secretary and the treasurer, the opening session on Tuesday will be featured by addresses by C. E. Johnston, chairman, Western Association of Railway Executives; by E. W. Reich, chairman, Signal section, A. A. R.; and by J. M. Trissal, chairman, Electrical section, A. A. R. In the final phase of the opening session, honorary memberships in the association will be presented to Ralph Budd, president, Burlington Lines, and J. M. R. Fairbairn, retired chief engineer, Canadian Pacific.

Six committee reports will be presented during the afternoon session on Tuesday. Aside from these the program of this session will include two addresses, each keyed to one of the committee reports. Specifically, the report of the Committee on Cooperative Relations with Universities will be followed by an address by Henry T. Heald, president, Illinois Technological Institute. Similarly, the report of the Committee on Highways will be followed by an address by J. R. Tenney, chairman, Committee on Highway Crossings, Safety section, A. A. R., whose subject will be: A Campaign for Caution at Highway Crossings.

Following the regular sessions on Tuesday, the A. R. E. A. group will be invited to attend an evening meeting of the Western Society of Engineers, at which a program will be presented of special interest to railroad men. The speaker will be O. M. Stevens, president and general manager, American Refrigerator Transit Company, and formerly chief, United States Railway Mission to Mexico, whose subject will be: Lessons We Can Learn from the Government-Owned Railways of Mexico.

Sponsored by its Transportation Engineering section, the meeting of the Western Society of Engineers will be held on the sixth floor of the Civic Opera Building at 7:00 p. m. This is not a dinner meeting and there is no admission charge. The Civic Opera Building is located at 20 N. Wacker Drive, being six blocks west and one block north from the State-Monroe corner of the Palmer House.

The next, or March 16 issue of the *Railway Age*, designated the A. R. E. A. Convention and Exhibit-in-Print number, will contain a complete report of the annual meeting, including abstracts of all the committee reports and addresses to be presented at the various sessions and of the comments made in discussion from the floor.

Return to Peace-Time Basis with Annual Meeting at Chicago

The program of the Wednesday morning session of the A. R. E. A. will consist of five committee reports and one address. Keyed to the report of the Committee on Roadway and Ballast, and scheduled to be heard immediately after this report, the address will be presented by Prof. Ralph B. Peck, University of Illinois, and will deal with Soil Mechanics as Applied to Railroad Roadbeds.

At noon on Wednesday the association will hold its annual luncheon in the Grand Ballroom, which will be featured by an address by Brigadier-General Donald Armstrong, commandant, Army Industrial College, Washington, D. C. This will be followed, during the afternoon session on Wednesday, by the presentation of three committee reports. No addresses are scheduled for this session.

During the final session of the meeting on Thursday morning, six committee reports are scheduled to be presented. Also on the program for this session is an address on the Fatigue Strength of Structural Welds, which will be presented by Prof. W. M. Wilson of the University of Illinois. This address will be keyed to the report of the Committee on Iron and Steel Structures, and is scheduled to be presented immediately after the report of this committee is received.

For several reasons the meeting this year is expected to be of particular interest and value. In the first place it will afford the first opportunity in two years for the oral discussion of committee reports. Furthermore, it will permit a first-hand presentation of the accumulated results of the research work in which the A. R. E. A. is participating, including some projects which have not been previously discussed at the association's annual meetings.

The regular sessions of the meeting this year will be presided over by A. A. Miller, president of the association and chief engineer maintenance of way and structures, Missouri Pacific, assisted by Vice-President J. B. Akers, chief engineer, Southern, and by Secretary Walter S. Lacher. A complete program of the three-day session is presented below.

This year there will be no exhibit of the National Railway Appliances Association in conjunction with the convention.

PROGRAM

Tuesday, March 12

MORNING SESSION—9:45 A. M.

Meeting called to order
Address by President Miller
Reports of Secretary and Treasurer
Address by C. E. Johnston, chairman, Western Association of Railway Executives
Address by E. W. Reich, chairman, Signal section, A. A. R.
Address by J. M. Trissal, chairman, Electrical section, A. A. R.
Presentation of Honorary Memberships

AFTERNOON SESSION—2:00 P. M.

Report of Committees on Co-Operative Relations with Universities
Address by Henry T. Heald, president, Illinois Technological Institute
Reports of Committees on
- Economics of Railway Location and Operation
- Yards and Terminals
- Water Service
- Highways

Address—A Campaign for Caution at Highway Crossings, by J. R. Tenney, chairman, Committee on Highway Crossings, Safety section, A. A. R., superintendent of safety, Western Maryland
Report of Committee on Buildings

TUESDAY EVENING—7:00 P. M.

Meeting of Western Society of Engineers
Address—Lessons We Can Learn from the Government-Owned Railways of Mexico, by O. M. Stevens, president and general manager, American Refrigerator Transit Company, St. Louis, Mo., and formerly chief, United States Railway Mission to Mexico

Wednesday, March 13

MORNING SESSION—9:00 A. M.

Report of Committees on
- Maintenance of Way Work Equipment
- Roadway and Ballast

Address on Soil Mechanics as Applied to Railroad Roadbeds, by Professor Ralph B. Peck, research assistant professor of soil mechanics, University of Illinois
Reports of Committees on
- Ties
- Wood Preservation
- Waterways and Harbors

ASSOCIATION LUNCHEON, 12:00 NOON

Address by Brigadier-General Donald Armstrong, commandant, Army Industrial College, Washington, D. C.

AFTERNOON SESSION—2:30 P. M.

Reports of Committees on
- Rail
- Track
- Economics of Railway Labor

Thursday, March 14

MORNING SESSION—9:00 A. M.

Reports of Committees on
- Wood Bridges and Trestles
- Masonry
- Iron and Steel Structures

Address on the Fatigue Strength of Structural Welds, by Professor W. M. Wilson, University of Illinois
Reports of Committees on
- Waterproofing
- Impact
- Records and Accounts

New Business
Installation of Officers
Adjournment

High Level of Activity Forecast for and Maintenance Forces

Release from war restrictions on materials brings a wider range of projects for both improvements and upkeep programs, to meet needs of peace-time traffic

The railways of the United States and Canada plan construction programs in 1946 comparable to those of 1944 and 1945, during which years expenditures for improvements rose to $300,000,000. For maintenance of way, the budgets of these same roads aggregate $1,280,000,000, or about 15 per cent less than in 1945. The combined expenditures for construction and maintenance are estimated to be $1,580,000,000. Details of these programs are discussed in this article, which is based on information obtained from the ranking engineering officers of 34 selected railways.

ALTHOUGH both freight and passenger traffic on the railways have passed the peak which was set by the record movement in 1944, present traffic is well above any previous peace-time level, with the prospect that it will continue at the present level well into the future. This view is held by both shippers and railway officers, despite the industrial unrest which is so prominent a feature of the news today, for they consider this unrest to be only a temporary manifestation of the reactions resulting from the dislocations that were suffered during the war.

Confirmation of this belief on the part of the railways as a whole is to be found in the large expenditures which the roads are planning to make during the year for motive power and rolling stock, and for both improvements in and maintenance of their fixed properties. In the case of locomotives and cars, they started the current year with unfilled orders for locomotives aggregating more than $90,000,000; for freight cars amounting to $100,000,000; and for passenger-train cars exceeding $250,000,000; while inquiries are now out or contracts are being placed for additional equipment of these types, including 1,200 passenger-train cars.

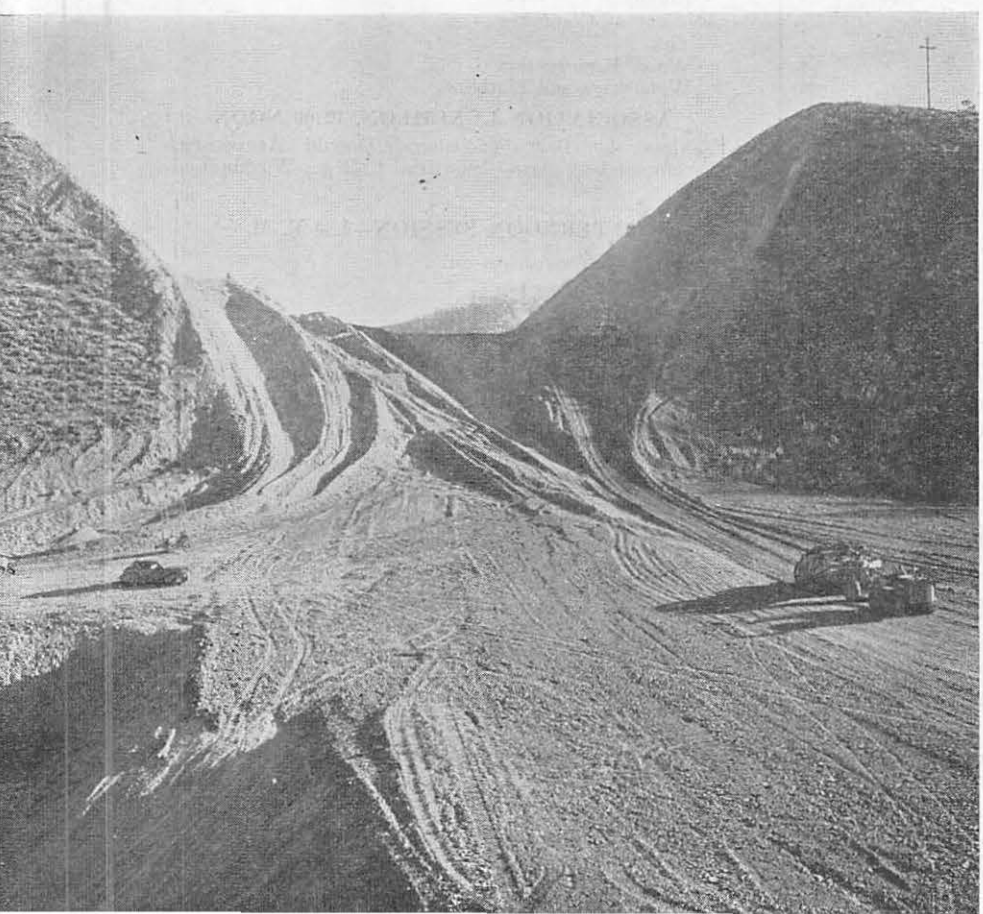
While in some respects the current programs for improving the fixed properties will be a continuation of those for 1945 and for the preceding years of the war period, there are planned for 1946 many new projects that will result in more diversified construction activity than has prevailed in recent years. A considerable amount of the work to be done this year will be carried over from 1945, and this, obviously, will follow the pattern that was set by the demands of military necessity. In other words, the carried-over projects will be confined largely to improvements that were designed specifically to relieve congestion at terminal and intermediate yards, to expedite the movement of trains between terminals, to facilitate the turning of locomotives to permit their more prompt return to road service, and to improve the facilities for repairing locomotives and cars.

New Projects to Be Started

On the other hand, new projects to be started this year include Diesel shops, to separate the maintenance and repair of Diesel locomotives from those operated by steam; the revision of grades and alinement, to remove speed restrictions because of curvature and to permit higher speeds and greater tonnage over what are now limiting grades; new installations of centralized traffic control; new engine terminals; the revision of water facilities and enlargement of supplies; many new buildings and the modernization of existing buildings; the renewal of bridges; the construction of new lines to reach untapped natural resources; and a wide variety of other work, including the widening of cuts and the strengthening of embankments.

During the war years, to conserve both labor and materials, severe limitations were placed on the range of projects that the railways were permitted to undertake. Yet there was no easing of the demands for the types of construction restricted, most of which are needed as much today as those for which approval could be secured. In fact, the need for many of the improvements that are scheduled for 1946 and the years immediately following had its origin in the depression years, when lack of funds made it impossible to undertake them.

Although a large number of projects of the classes mentioned were completed during the four years from 1942 to 1945 inclusive, there still remains a pent-up



Major line revisions have reappeared in the budgets on a considerable scale

Construction in 1946

need for a vast volume of railway construction of all classes, not only to meet immediate requirements but also to care for future needs, when competition will be keener than any that the railways have been called upon to face in the past.

$300,000,000 for Construction

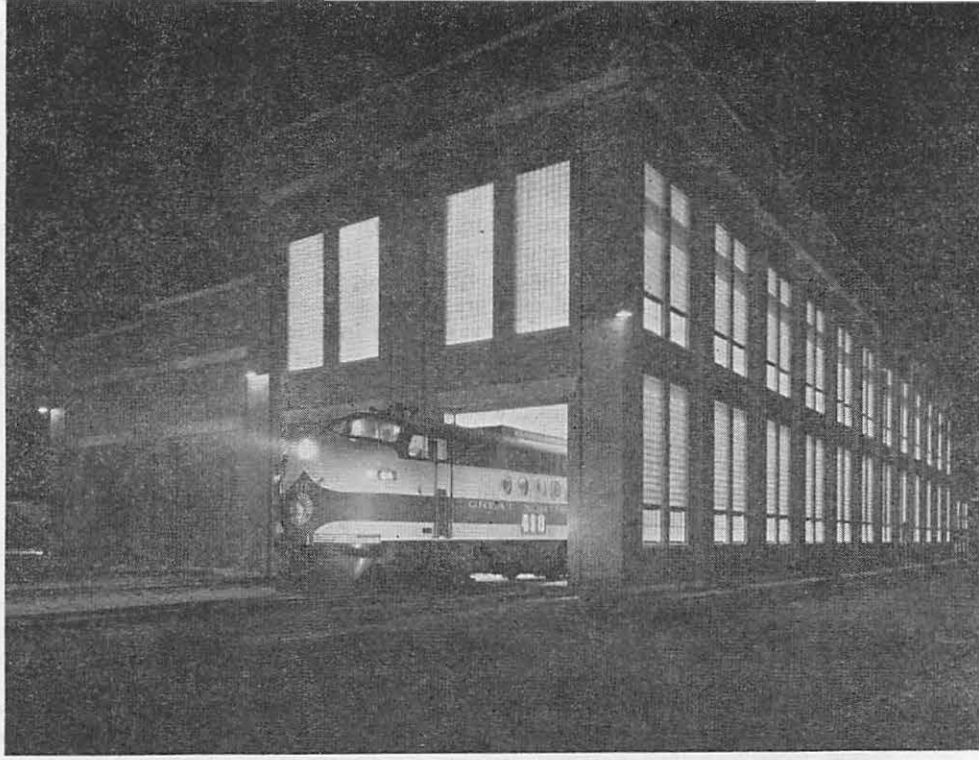
Yet the immediate requirements for improvements are so pressing that the railways in both the United States and Canada are directing their efforts particularly to getting the work done that is most essential for the conditions of today. As planned, the volume of work that has been scheduled for this year by these railways will total substantially the same as that carried out last year, and will involve expenditures of approximately $300,000,000. This prediction is based on information obtained from the engineering officers of a selected group of typical roads in the United States and Canada concerning their plans for the current year with respect to both construction and maintenance.

Inquiries to determine the volume and character of the work that will be undertaken in 1946 elicited replies from the chief engineers and engineers maintenance of way of 34 roads, representing slightly more than 40 per cent of the operated mileage in the United States, and one road in Canada. Of these 34 roads, 21 gave details of their proposed expenditures, 5 gave partial information, 4 said they planned to spend substantially the same for improvements as they did last year, and 4 said that, owing to the unsettled industrial situation, they expect that it will be necessary to revise such tentative plans as they have already prepared.

Several roads stated that while their budgets for this year call for about the same expenditures as planned in their budgets for last year, they expected to spend a larger sum than was spent last year, because the current budget is in addition to the work that was carried over from 1945. Two roads reported that, since they do not work on the budget system, but consider each project on its merits as it arises, they were unable to give any specific figures concerning their plans for the year or to make specific comparisons with previous years. However, both implied that they expect to spend substantial sums during the year for the improvement of their fixed properties.

As already mentioned, numerous projects are being carried over from last year, which were uncompleted at the end of the year for various reasons, mainly because of the difficulties encountered in the procurement of labor and materials. These consist principally of yard improvements ranging from the lengthening of a few tracks or the rearrangement of existing track layouts to undertakings of considerable magnitude, including an unusual number of signal installations, 18 roads having listed such signal projects.

Among the new undertakings, 12 roads include engine terminals among their major projects for the year, several of which call for entirely new terminals or major revisions of existing facilities, while a number of additional roads are planning longer turntables, longer engine pits and stalls, or extensions to present enginehouses. Others include new cinder pits, water and coal handling facilities, and heating and water lines.



Above—Many projects are contemplated involving the construction of shops for repairing Diesel-electric locomotives. Below—The construction of new buildings and the modernization of existing structures constitute important items in the 1946 budgets

Line Revisions Again Appear

One of the items that practically disappeared from the budgets during the war period was major revisions of line and grade, although several roads did

complete a number of such projects of considerable magnitude as an aid to their handling of war traffic. This year 10 of the reporting roads are planning such revisions to remove speed restrictions or to increase the tonnage that modern locomotives can haul over present limiting grades. These projects vary in magnitude from 1 to 20 miles in length and in cost from $75,000 to $2,500,000, while individual roads are planning as many as seven such projects for the year.

Next in order in the magnitude of the expenditures proposed are shops. While the budgets contain a large number of such projects, it is significant that 11 roads are including separate shops for maintaining and repairing Diesel locomotives and 6 are including power houses as a part of their shop improvements. Plans for this work range from the installation of new shop machinery and tools and the alteration and enlargement of existing buildings to new structures and enlarged facilities for the repair of locomotives and cars.

Of smaller magnitude individually, but bulking large in the aggregate, almost all of the roads reporting the details of their budgets said that they are planning improvements in their water and fueling facilities. These improvements include both increased and more dependable water supplies, larger wayside storage, greater pumping capacity, duplicate installations of pumps and other equipment, faster delivery of water to locomotives, extension of water softening and greater refinement in treating, as well as enlarged treating capacity. With the increasing number of Diesel locomotives in road service, a considerable number of these projects include supplying water to these locomotives as well as to steam locomotives. In this connection, one engineer maintenance of way said, "We had never realized on how narrow a margin we were working with respect to the adequacy of our water supply until increasing war traffic made the situation clearly apparent." In all sections of the country the railways are including fuel stations to serve both steam and Diesel locomotives, in some cases as many as six or seven such installations being planned for the year by individual roads.

Signals Important Item

It has been mentioned that signal installations will play a prominent part in the construction activities of the year. The reason for this is that train speeds and traffic density have increased to such an extent that many districts or parts of districts lack the capacity to handle trains without delays. While in many instances this situation became acute under the pressure of peak military traffic, it still remains aggravated under the present level of peace-time traffic, with the result that not a few roads are planning, not only to obtain the needed capacity but to improve their train operation by making installations of centralized traffic control over stretches where interference with train operation can thus be eliminated. In numerous instances such installations provide the only alternative to double tracking.

However, since the successful operation of C. T. C. requires ample and properly located facilities for meeting and passing trains, these projects almost invariably involve the respacing and extension of existing passing sidings and the construction of new sidings to obtain the desired length and correct spacing. In addition, almost half of the roads that participated in this study have plans for installations of automatic signals and new interlockings, as well as for rearrangements and replacements of existing interlockings. Several roads that have acquired Diesel passenger locomotives recently are finding it necessary to respace automatic signals to insure correct braking distance for high speeds.

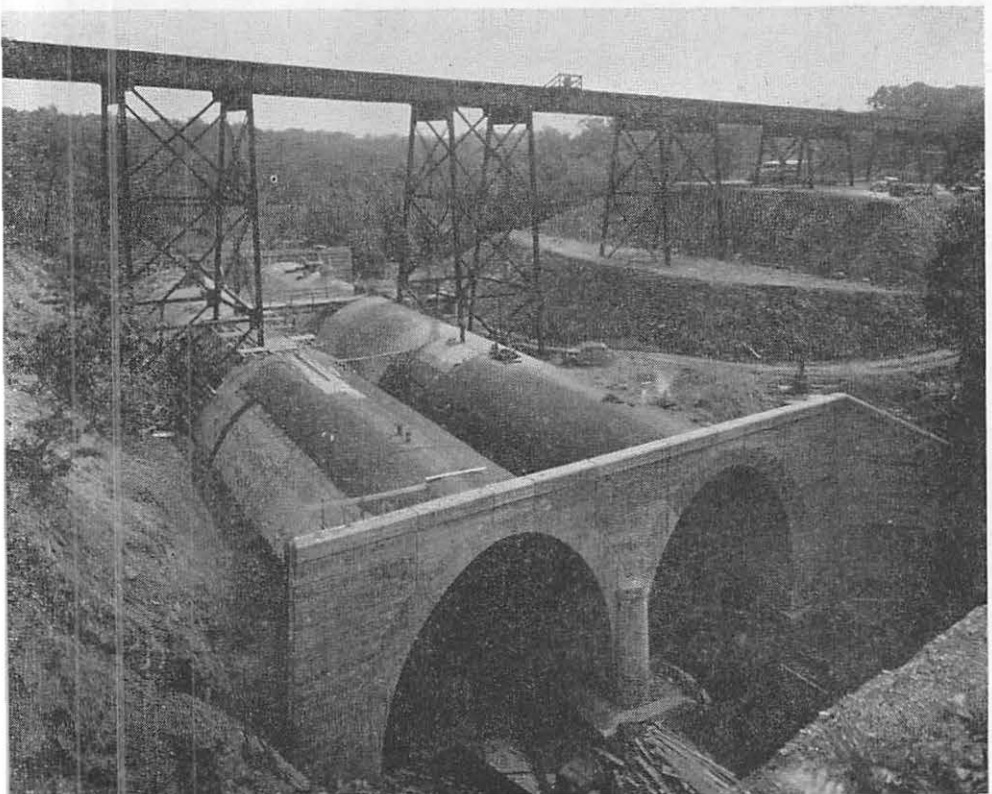
In strong contrast with the budgets for the last five or six years, the current budgets carry substantial sums for the construction of new buildings, ranging from moderate expenditures to more than $1,500,000 for individual roads. They include a wide range of structures, such as passenger and freight stations, enginehouses, shops, fuel stations, pump houses, interlocking towers, battery and relay houses, and other buildings incidental to the construction or improvement of other facilities. On the other hand, many individual buildings that are not part of larger projects will be replaced, enlarged or remodeled. In addition, a considerable volume of modernization work will be undertaken, especially to bring passenger stations more nearly in step with the demands of passenger traffic, which is today becoming highly competitive.

With only minor exceptions the roads giving information concerning their plans for the year have included important bridge work in their budgets. Although there are no unusually large projects of this type planned, such as have been included for each of the last five or six years, the work that is planned calls for the replacement of a large number of existing structures that are entirely too light for present requirements. Other items of magnitude include grade separations, strengthening of the roadbed, drainage, right-of-way grading and a variety of miscellaneous work.

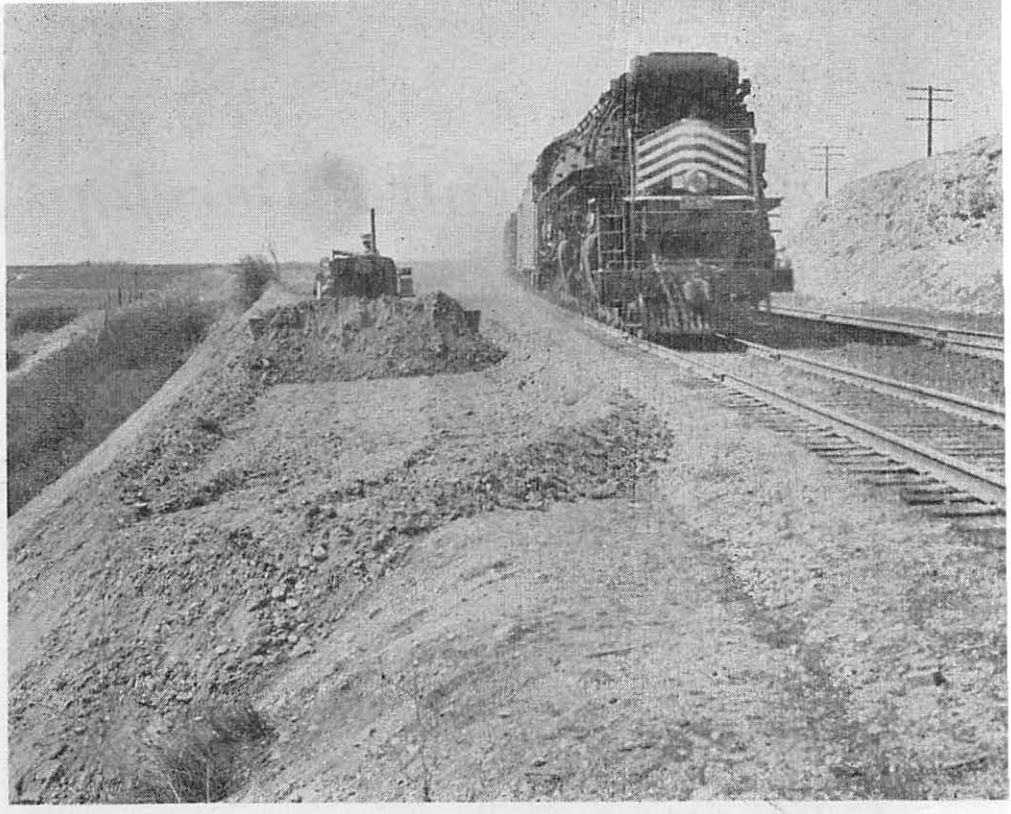
What the Budgets Show

With the close of the war it was assumed in many quarters that traffic would drop sharply and many of the budgets covering maintenance for 1946 were prepared in expectation of a corresponding reduction in revenues. On the basis of the information given by the 34 roads that participated in this study, the budgets now planned call for a reduction of approximately 15 per cent from the record expenditures that were made in 1945.

In estimating their maintenance expenditures for the year, 20 roads gave definite figures covering the amounts authorized, together with details of their programs. As in the case of their im-



Most railroads have included important bridge work in their program for 1946



The budgets call for an increase in bank restoration and cut widening

provement budgets, however, four roads were unable to predict what their expenditures will be and two had not completed their budgets, while the remainder said that their programs were substantially on the same level as last year.

Sixteen of the roads reported that they expect to spend less, in amounts ranging from $400,000 to $11,000,000, while three expect to spend more than they did in 1945. On the basis of the budgets for all of these roads, it is estimated that the railways of the United States and Canada will spend $1,280,000,000 for maintenance of their fixed properties in 1946. This sum, combined with the $300,000,000 that will be spent for improvements, brings the grand total for construction and maintenance to $1,580,000,000 for the year.

Probably no single item of maintenance requirements is so pressing as that of rail. Measured in gross ton-miles of traffic, there have been serious deficits in the amount of both new and released rail laid annually in each year since 1930. Since it seems probable that, if the present strike situation can be cleared up shortly, traffic during the year will remain at or about its present level, and since it is also probable that average train speeds will continue to rise, it is not at all surprising that rail constitutes a major item in the budgets of the roads participating in this study.

With only one or two exceptions, the officers who supplied information concerning their rail programs are planning to lay more rail than they did last year. On the basis of the figures given, the budgets of all of the roads call for approximately 2,400,000 net tons. However, because the demand for steel for all purposes has been so great, the mills have found it necessary to assign a lower tonnage than the orders called for. In other words, while accepting the orders, they notified the railways that they could not promise delivery of more than a certain per cent of the tonnage asked for.

Since these orders were placed, conditions brought about by the steel strike, which stopped all production for two months, and which is still felt in restricted production, has confused the situation still further, so that at present it is problematical just what percentage of the rail orders can be filled with equal uncertainty as to the amount of rail that can be laid during the year.

Much Ballast to Be Placed

Ballast constitutes another item in which there is a large deficit. Owing to lack of funds during the depression years, the application of ballast fell far short of requirements, and in no year since 1930 has more than 50 per cent of the normal requirements of ballast been applied. As a result, many miles of track have been surfaced and resurfaced with the application of little or no ballast. Although there was some increase in the amount of new ballast used in each of the last four or five years, the volume applied in none of these years even approached the volume applied annually in each of the 10 years prior to 1929.

In addition to this exceedingly large deficit in new ballast, the ballast in service has been fouling at an unprecedented rate under the record traffic that the railways have been called upon to handle. As might be expected, therefore, ballast occupies an important place in the budgets for 1946, and the programs call for an aggregate amount in excess of any year since 1930. In fact, each of several roads expects to apply from 1,000,000 cu. yd. to amounts considerable in excess of this figure.

In confirmation of the budget figures for increased quantities of ballast, the budgets also contemplate the purchase of 386 tie tamping outfits, ranging from 4 to 12 tools, and 326 unit tampers, in addition to 128 other units employed in applying ballast, including cribbing machines, power jacks, power ballasters and miscellaneous machines.

No maintenance officer today would be willing to apply new ballast without suitable preparation of the roadbed for receiving and conserving it. This calls for a full roadbed section and drainage that is adequate to assure stability and full support for the newly surfaced track. As a corollary to the ballasting program, therefore, the budgets also call for an increase in bank restoration and the widening of cuts, as well as for both surface and subsurface drainage, corresponding roughly to the amount of track to be ballasted.

Again, by turning to the budgets for work equipment, further support is found for the statement that drainage and grading will constitute a major item in maintenance of way activities for 1946 in the fact that these budgets contain provision for the purchase of 312 units of earth-moving equipment. These units include power shovels, draglines, cranes fitted with excavating buckets, tractors with earth-moving attachments, carryalls, graders, scrapers, road rollers and other similar equipment. While this is fewer units than were purchased in 1945, it is the largest number to appear in the budgets for any previous year.

Ties Will Increase

Since 1942, the number of ties available to the railways has not only been below their normal requirements, although traffic during the same period was far above normal, but ties have worn out faster than ever before. With production for some months of 1944 and 1945 as much as 45 per cent below normal, and with inventories sadly depleted, early prospect for sufficient ties to meet the needs of the railways during 1946 were, to say the least, not favorable. However, since August of last year tie production has returned to normal and, even when seasoning requirements are taken into account, the present prospect is that there will be sufficient ties to meet the 10 per cent increase in tie insertions which the budgets for the year call for.

Almost all maintenance officers are aware of the value of keeping vegetation

(*Continued on page 506*)

Inserting a hot-box-detection cartridge in a trailer-truck roller-bearing housing

In applications of this type of hot-box alarm to roller bearings only one cartridge was applied to each bearing. The smoke-producing cartridge was omitted because the roller-bearing manufacturers considered it unnecessary. The first applications to roller bearings on the New York Central were made in 1937 to four new combination mail-baggage and six new dining cars. The Pullman Company was requested to make similar application to new Pullman cars under construction for the New York Central. These experimental applications were gradually extended until hot-box alarms were in service on 312 passenger train cars of all kinds and on one or more classes of bearings of 174 locomotives, 75 of which have complete installations on all engine and tender bearings.

The experience in roller-bearing service is less favorable than with friction bearings. Most of the trouble on the New York Central was caused by defective cartridges. It is sometimes difficult in a roller bearing to locate the cartridge so that the fusible element will be sufficiently close to the source of heat generation to respond promptly to overheating.

From January 1, 1942, to October 15, 1943, 61 leaking or discharged hot-box alarms were reported in roller-bearing boxes, the bearings of which were found not overheated and were continued in service. During the same period six roller-bearing failures occurred in which it was reported that the hot-box alarm did not discharge. In the case of 14 other failures the alarm functioned as intended; serious damage was averted.

It was found that cleaning of roller-bearing boxes in a solution having a temperature of around 200 deg. F. was causing the fusible plug, which melts at 220 deg. F., to leak, so instructions were issued at the end of October, 1942, to clean these boxes in a solution having a temperature not exceeding 160 deg. F. It was also learned that some inspection points made a practice of rubbing the end of the hot-box alarm with a packing iron and then smelling the iron to see if the alarm was leaking. This practice has been discontinued because of damage to the fusible plug. Such action is not required to detect a leaking alarm.

In order to guard against defects of manufacture it is now required that all cartridges, after filling, be tested in water at a temperature of 200 deg. F. for five to ten minutes for leakage. Leaky cartridges can be detected without difficulty by this test. When cartridges are removed from the bearing during repairs at the shops, or for any other reason, a similar test is made before they are reapplied.

Relocation of hot-box alarms in roller-bearing boxes to place them nearer the rollers and races in order to reduce to a minimum the possibility of failure to discharge when the bearing fails is under consideration by the roller-bearing manufacturers. It has been found impracticable, however, to relocate the alarms in some of its existing bearings.

The experience of the New York Central has led to the conclusion that the smoke-and-odor type of alarm provides a practicable means of assisting train crews and others on duty along the right-of-way in the detection of hot boxes of either the friction- or the roller-bearing type before serious trouble develops. The first cost is believed to be much less than that of any other type of hot-box warning device now available, and only routine maintenance attention is required during the life of the bearing; furthermore, the average costs are expected to be reduced in the course of time by the reclamation of cartridges and their reapplication to other bearings.

Believing that fully satisfactory results cannot be attained unless the applications are sufficiently extensive so that train crews, crossing watchmen and maintenance men can be properly instructed and become familiar with the device, the New York Central has embarked upon a program of application which includes all new roller-bearing passenger-train cars, all head-end passenger-train cars with friction bearings, all air-conditioned passenger cars with friction bearings, and all high-speed passenger locomotive bearings. This involves the installation of cartridges in more than 35,000 bearings.

The alarm is protected by patents and patents pending, and is known as the Twinplex Hot-Box Alarm. Friction bearings equipped with this alarm are furnished by the Magnus Metal Corporation under an agreement which stipulates that they will also license other bearing manufacturers to apply the alarm, provided cartridges are purchased from Magnus. Alarm-equipped roller bearings are furnished by the Timken Roller Bearing Company and this company also supplies the cartridges for application by other roller-bearing manufacturers.

Both the Timken and the Magnus companies cooperated with the New York Central in the development of this device.

High Level of Activity Forecast

(*Continued from page 503*)

under control on the right of way, and particularly on the roadbed and track, and with few exceptions they carry out this class of work not only to reduce the hazard of right-of-way fires and to maintain satisfactory drainage of the track and roadbed, but also to insure a good appearance of the property. To this end the budgets covering work equipment include 223 weed-destroying units, in addition to which a number of roads indicated that they expect to use a considerable volume of chemical weed destroyers.

As with rail, there remains some uncertainty about the procurement of structural steel because of the interference with production resulting from strikes. However, the need for the replacement and strengthening of many structures is so great that maintenance officers are planning to use every effort to obtain the material necessary to do this work on a considerably larger basis than has been possible for several years when they were limited by W. P. B. restrictions.

Not a few roads are also planning to replace wooden trestles with concrete trestles or, in other cases, to retire them by substituting pipe culverts or concrete boxes and filling the remainder of the openings.

More Building Work in Prospect

Building maintenance will be increased noticeably, compared with any year since 1930. Outside of routine repairs, many existing structures will be replaced with new buildings of more modern design and, in some cases, on new sites. Others will be enlarged or altered to meet today's requirements, while modernization will be an important factor in the building programs for the year. Owing to the scarcity of lumber,

The budgets call for an increase in bank restoration and cut widening

provement budgets, however, four roads were unable to predict what their expenditures will be and two had not completed their budgets, while the remainder said that their programs were substantially on the same level as last year.

Sixteen of the roads reported that they expect to spend less, in amounts ranging from $400,000 to $11,000,000, while three expect to spend more than they did in 1945. On the basis of the budgets for all of these roads, it is estimated that the railways of the United States and Canada will spend $1,280,000,000 for maintenance of their fixed properties in 1946. This sum, combined with the $300,000,000 that will be spent for improvements, brings the grand total for construction and maintenance to $1,580,000,000 for the year.

Probably no single item of maintenance requirements is so pressing as that of rail. Measured in gross ton-miles of traffic, there have been serious deficits in the amount of both new and released rail laid annually in each year since 1930. Since it seems probable that, if the present strike situation can be cleared up shortly, traffic during the year will remain at or about its present level, and since it is also probable that average train speeds will continue to rise, it is not at all surprising that rail constitutes a major item in the budgets of the roads participating in this study.

With only one or two exceptions, the officers who supplied information concerning their rail programs are planning to lay more rail than they did last year. On the basis of the figures given, the budgets of all of the roads call for approximately 2,400,000 net tons. However, because the demand for steel for all purposes has been so great, the mills have found it necessary to assign a lower tonnage than the orders called for. In other words, while accepting the orders, they notified the railways that they could not promise delivery of more than a certain per cent of the tonnage asked for.

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(Continued on page 506)

New York Central Develops Hot-Box Alarm

Since 1933 "smoke-and-odor" type detectors have been under continuous trial and evolution—Now adopted for general installation

AFTER a period of development and testing which has been in progress since 1933, the New York Central has evolved a practical hot-box alarm which it has now programmed for general installation on its passenger rolling stock and locomotives. The alarm system employs two indications—smoke for observation outside the train and to identify the overheated box, and a distinctive and unpleasant odor which conveys the message to the interior of the train. The alarm was designed primarily for application to friction bearings, but has been adapted to and is being installed in roller-bearing journal boxes.

In its latest form this alarm consists essentially of two containers or "cartridges" which are placed in cavities provided in the bearing for that purpose. Each cartridge is filled with a different liquid and has a small orifice sealed with a fusible metal which melts at a predetermined temperature and releases the liquid. At this temperature the liquid vaporizes as fast as it can escape through the orifice. The liquid from one cartridge produces a distinctive and penetrating odor and that from the other a dense white smoke, both of which give warning of an over-heated bearing. The discharge continues until both cartridges are empty, which requires from eight to ten minutes.

The liquid used to produce the odor is ethyl mercaptan and the smoke-producing liquid is a mixture of titanium tetrachloride and carbon tetrachloride. The gases from both of these liquids are non-corrosive and, when diffused in the atmosphere, can be inhaled without harmful effect. For the fusible element, the melting temperatures that have been found most satisfactory are 220 deg. F. for roller-bearing applications, 320 deg. F. for waste-packed friction bearings, and 450 deg. F. for grease-lubricated friction bearings. All three of these temperatures are substantially above the normal running temperatures of bearings of the respective types. Some years ago the New York Central conducted a series of tests which disclosed that carbon steel axles in the normal 40-55 carbon range are not adversely affected by temperatures up to 525 deg. F.

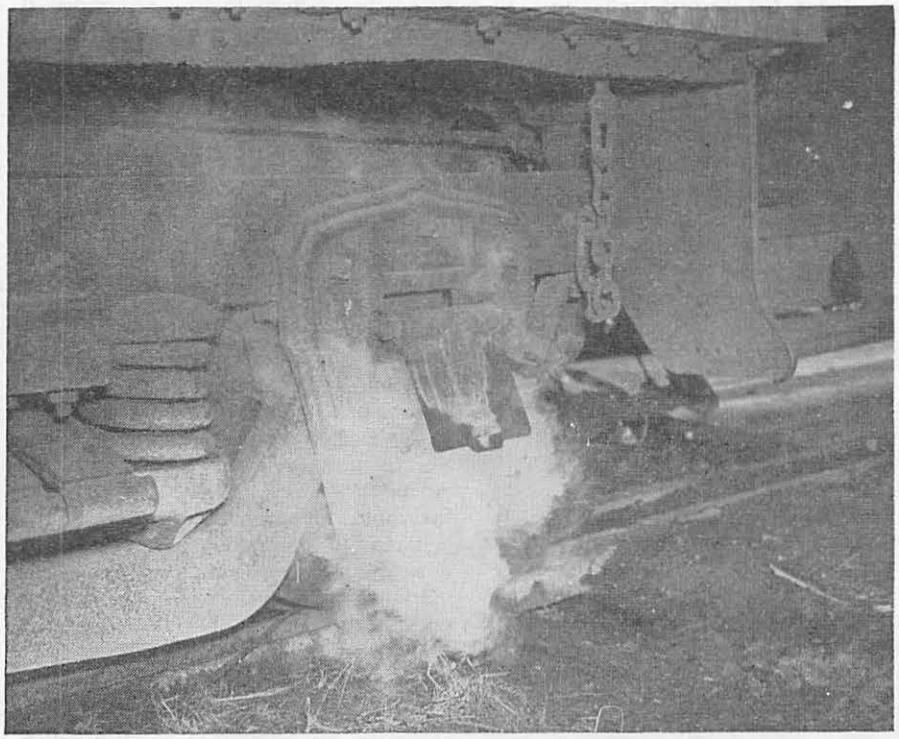
The cartridges for friction bearings are thin-wall brass tubes 5/8 in. in outside diameter. These tubes are of two lengths, 7 in. and 8 in. The shorter tubes are for 5-in. by 9-in. brasses and the longer ones for all other bearings. The ends of these tubes are fitted with brass cap seats, with inside taper threads, which are sweated in place. In the seat is screwed a fusible plug. The finding of a satisfactory closure of the tubes was one of the most difficult phases of the development of successful cartridges. The taper threads are 40 per in.

To distinguish readily between the two types of cartridges the plug for the odor cartridge has a hex head and that for the smoke cartridge, a square head. The head of each plug is also stamped with a number which indicates the melting temperature of the fusible metal with which it is filled. When loaded and plugged the cartridges are tested in hot water at 200 deg. F. for ten minutes to detect any lack of tightness in the closure.

The journal bearing is drilled longitudinally to provide cavities of suitable depth to receive the cartridges. These cavities are located just inside the sloping sides of the brass where the metal is thickest. The cartridges are retained in the brass by Hubbard expansion plugs (dished washers), which are pushed into shallow cylindrical countersinks at the ends of the cavities.

The loaded cartridges are placed in the bearing by the manufacturer and require no attention thereafter unless and until they are subsequently discharged by an overheated bearing, when, of course, they must be replaced.

The cartridges for roller-bearing boxes are formed of thin steel and are 1¼ in. in diameter by 1⅞ in. long, closed by a welded cover in the center of which is a fusible plug. These are inserted in pockets in the face of the roller-bearing housing. Ears which project out from the end of the cartridge fit into recesses in the face of the housing, in which they are secured by peening over the metal at the edges of the recesses.



Smoke from a friction-bearing cartridge escaping from the journal box

Early Tests

The first test in road service was made in August, 1933, on a branch line. For this test a dummy journal box was attached to the underframe of a Pacific type locomotive tender. Artificial heating was produced by an electric heater

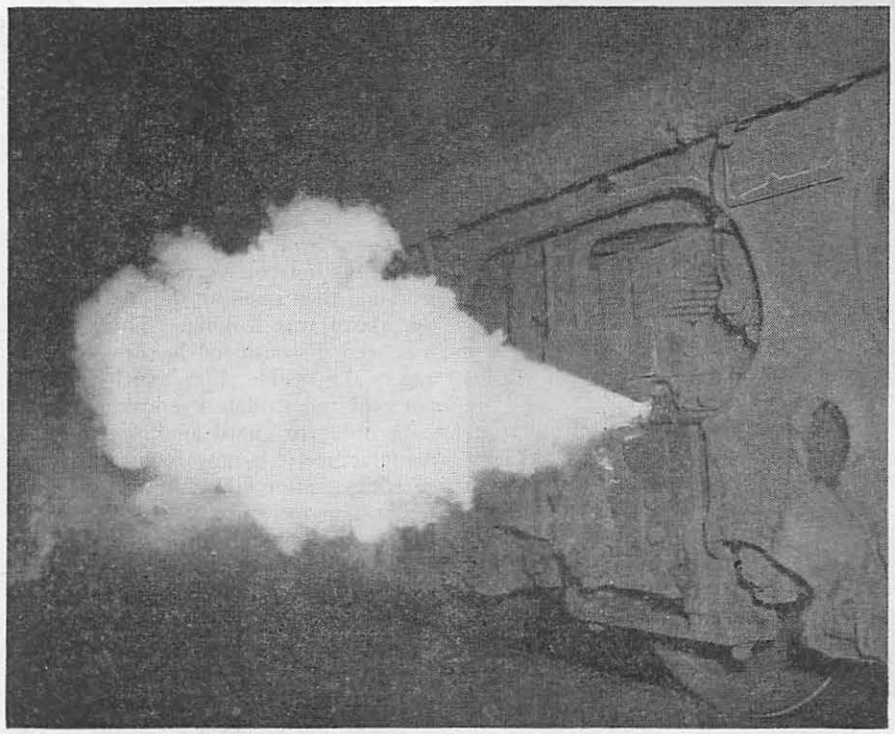
and small capsules containing the specified materials were thus discharged en route. Observers stationed in different cars of the train all reported that the odor was so strong that it could hardly have escaped attention by any member of the train crew. This test did not, however, represent main-line conditions, and the train included no air-conditioned cars.

On July 16, 1934, the first observations were made on a main-line revenue train. It was found that the odor from the alarm was plainly noticeable in both air-conditioned and non-air-conditioned cars. This was still not considered conclusive, however, because the container used to represent the journal box was well ventilated, a condition favorable for the escape of gases from the alarm.

On August 9, 1934, a third series of main-line tests was made. In these tests a standard journal box equipped with an articulated lid was suspended as before underneath the tender. The journal-box lid was of the ventilated type but tests were made also with the ventilators tightly plugged, so that conditions simulated those in service with the tightest known friction journal box. Evidence of the effectiveness of the "smoke," as well as the odor, of this alarm was developed unexpectedly during these tests when the train was stopped by a tower man because he saw the smoke of a "hot box" and did not know that it was artificially created.

These three tests established beyond question the fact that the odor of the hot-box alarm is strong enough so that it can hardly escape detection by the train crew, and that this is equally true whether cars are air conditioned or not. The odor is noticeable for about five minutes.

About the time the first of the road tests was made, several tender bearings on a switch engine operating in passenger helper service out of Albany were equipped with this alarm for the purpose of determining whether any of the materials, including liquids, used would show deterioration as a result of age, vibration and repeated heating and cooling. These bearings, when removed on account of wear after about two years of service, were sent to West Albany laboratory for examination. The hot box alarms were found intact and, when set off by heating in an oil bath, were found to function at the stipulated temperature with no apparent loss of effectiveness.



Discharge of a smoke cartridge in a tender roller-bearing journal box

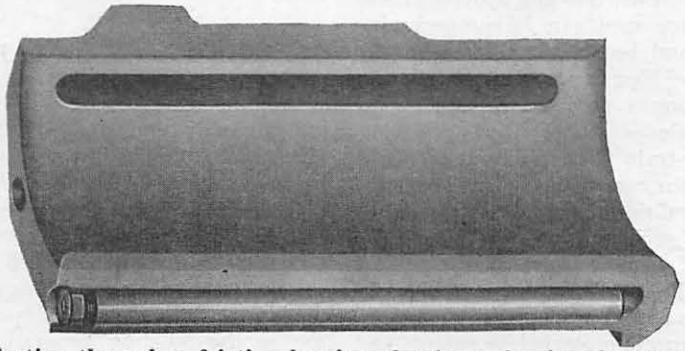
Tests on Friction Bearings

Beginning in October, 1934, 500 alarm-equipped bearings were applied to J-1 class 4-6-4 type locomotive tenders. Later 500 additional applications were made to K-3 class 4-6-2 type tenders and a small number of passenger coaches. These applications were followed as a service test and care was taken at the outset to acquaint the train crews with the application. Small bottles of ethyl mercaptan were distributed so that the crews could become familiar with the nature of the odor released when the alarm functioned.

The cartridges for this initial application were somewhat crudely made and several false alarms were given by leaking cartridges. However, in the two-year period ending November 1, 1936, attention was called to 16 actual cases of hot-boxes by the functioning of the alarm device.

Typical of these cases is one which occurred on October 25, 1936, in which the left No. 3 tender journal box was discovered running hot by the odor discharged by the hot box alarm. The bearing was found with the lining melted out and the brass cracked. Some two and a half years earlier the left No. 3 tender journal box on this same train ran hot at about the same location. It was not equipped with a hot-box alarm and was not discovered until the journal had burned off and the entire train of nine cars had been derailed.

On October 15, 1937, 1,000 additional applications were authorized. These were applied more or less promiscuously to locomotive tenders and cars of various types over a considerable period of time. Because of the trouble experienced with these miscellaneous and scattered applications, all of which could be traced to defects, principally leaky cartridges, it was decided to defer further applications until a more satisfactory cartridge had been developed. A new design of cartridge was produced and all crown brasses of L-3b and L-3c locomotives were equipped with them in 1941 and 1942 by the builders. All L-3b locomotives have now completed at least one shopping period and there have been no reports of leaking cartridges on these locomotives.



Section through a friction bearing showing a hot-box-detection cartridge in place

Inserting a hot-box-detection cartridge in a trailer-truck roller-bearing housing

In applications of this type of hot-box alarm to roller bearings only one cartridge was applied to each bearing. The smoke-producing cartridge was omitted because the roller-bearing manufacturers considered it unnecessary. The first applications to roller bearings on the New York Central were made in 1937 to four new combination mail-baggage and six new dining cars. The Pullman Company was requested to make similar application to new Pullman cars under construction for the New York Central. These experimental applications were gradually extended until hot-box alarms were in service on 312 passenger train cars of all kinds and on one or more classes of bearings of 174 locomotives, 75 of which have complete installations on all engine and tender bearings.

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High Level of Activity Forecast

(*Continued from page 503*)

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More Building Work in Prospect

Building maintenance will be increased noticeably, compared with any year since 1930. Outside of routine repairs, many existing structures will be replaced with new buildings of more modern design and, in some cases, on new sites. Others will be enlarged or altered to meet today's requirements, while modernization will be an important factor in the building programs for the year. Owing to the scarcity of lumber,

many of the newer building materials will be utilized in place of the conventional types of construction which most railway building officers have followed so conservatively in the past.

By the end of 1940 the railways had succeeded in wiping out a considerable part of the deferred maintenance that had accumulated during the depression years, although a substantial amount still remained with respect to rail, ballast, bridges, buildings and a few other items. In addition, obsolescence had become an important factor in respect to both the maintenance of existing facilities and their replacement with more modern designs.

On the basis of gross ton-miles, rail renewals during the depression years were decidedly subnormal, but, owing to the relatively light traffic of the period, this deficiency was not so pronounced as it would have been under a normal volume of traffic. On the same basis, since 1940, the replacement of rail has been grossly inadequate to offset the wear and tear of an almost incredible traffic that was being moved at average speeds greater than in any previous period. Because of this continued deficiency in rail renewals, the amount of deferred maintenance in rail has increased rather than decreased during the last six years. The same comment can be applied to ballast and bridges, while the deficit in building maintenance on the roads as a whole has been allowed to accumulate with little interruption since 1930, a period of 16 years.

It is more than probable that post-war requirements for buildings will differ in many respects from those of the past and, in fact, from those that can now be foreseen, particularly for those buildings that serve the public directly. On the other hand, even present requirements are so different from those of a decade and a half ago that the effect of obsolescence is constantly becoming more evident, and there are more outmoded buildings on the railways today than at any previous time. For this reason, not only those buildings that are patently obsolete today but many that are more nearly up to date, will require replacement or modernization to fit them for the requirements of the immediate future, while this process can be expected to continue almost indefinitely, thus carrying modernization and replacement work for some years into the future.

Details of some of the items of work equipment that are included in the budgets for 1946 have been mentioned in connection with certain classes of work. As a further indication of the volume of work the railways are planning to do in 1946, they are planning to purchase 9,500 power machines and power tools, with an excellent prospect that this number will be increased to 10,000 as the year advances.

Young Raps "Banker Control"

C. & O. chairman makes other criticisms to Senate Committee on new voluntary reorganization bill

ROBERT R. YOUNG, chairman of the board of the Alleghany Corporation, appeared at last week's sessions of Senate interstate commerce committee hearings on S. 1253, the bill introduced by Chairman Wheeler of that committee to implement voluntary adjustment of railroad financial structures. Mr. Young's statement, as released for publication by Alleghany Corporation headquarters, follows substantially in full:

"For three generations, Morgan and Kuhn Loeb have dictated the policies of the American railroads without a dollar of permanent ownership therein. True, now and then an independent figure like Hill, Harriman, Gould, Vanderbilt or Van Sweringen bobbed up, but eventually financial and social pressures or self interest brought them into line with the ruling houses.

"Complaisant Vassalage"

"At best, such independent figures were subordinate princes holding sway in limited territory, but only so long as they conformed. This system of complaisant vassalage extended into the life insurance companies, the banks and the brokerage houses, proxies, custodians and trustees of the bulk of the nation's voting securities—other people's money.

"By controlling the issuers of securities on the one hand, the railroads, the industrials and the utilities, and the large buyers of securities on the other, the insurance companies and other public institutions, it was simple to sit in between (to serve two masters) and advise one to sell at 95 and the other to buy at 100. The bond issue might be $100,000,000 and the bankers' spread $5,000,000. The only equipment needed was a telephone.

"Is there any wonder that Morgan and Kuhn Loeb had more partners than bond salesmen, and that each partner owned a yacht? Here were hugely profitable businesses without branches, sales force or other visible means of support. All the little banking houses of issue conformed and did any hard work of selling assigned to them, so that they might not be kicked out of their position under the table where now and then a crumb fell.

"Ruling Houses" Set Policies

"Every railroad president in the country nodded yes when the self-appointed bankers priced his railroad's bonds points below their true market, thus providing the bankers a handsome spread and making the bonds easy to sell. All the railroads, too, followed the pattern these ruling houses laid down on every major question of policy. Could they not control the railroad president's proxies at his next annual meeting? If a railroad president forgot himself, for instance, to make a large bank deposit in say Dallas, Texas, where much of his traffic came from, was he not likely to suddenly find that his board of directors, even though they came from Texas, were dissatisfied in the way he was operating his engines; whereas, if he left his deposits in New York with the right parties, might he not continue to be president until he was seventy-five, yes, even eighty years of age, although his sleeping car equipment fell apart?

"This was the situation then in the early 'Thirties when these railroads began to go into bankruptcy, and control of a large segment of the industry was subjected to the possibility of change, with implications for financing, bank deposits, trusteeships and countless other emoluments unpleasant to contemplate. It was an emergency the ruling houses rose to heroically. At considerable sacrifice to themselves in energy, but none in money, for they would charge all the expenses to the victims, they would reorganize the railroads and relaunch them safely.

"The device was so archaic and odorous that even the New York Stock Exchange in the days of Whitney had condemned it; nevertheless, with proper circumlocutions and window dressing, they might get away with it. They could argue, for example, that they must keep control from falling into the hands of what they cleverly characterized as speculators or vicious holding companies like Alleghany which had only $100,000,000 at stake. The banking-insurance group itself was surprised at the ease with which it got away with its scheme.

Sought Tighter Control

"They were to have their control restored to them even tighter than before. The real owners were to be given no voice whatever for ten years after reorganization. By that time the situation would be safely in hand. This shocking disenfranchisement of the owner was to occur even if the insurance companies sold all their bonds before the reorganization was consummated, which in many cases they have done.

"It is hardly to be wondered that the [Interstate Commerce] Commission and the courts went along in the beginning, away back in 1935, with the murderously pessimistic forecasts of these schemers. After all, the insurance companies were owners of bonds, and owners are supposed to be husbanders. Furthermore, to the extent the bankers made their presence visible, it was to be presumed that they would give the security holder every protection in reorganization possible. Had not these bankers originally sponsored the securities that were being wiped out, and was not the S. E. C. organized and functioning now to see that fraud in securities could never again be?

"Yet the crust of this banking-insurance group is greatly to be marveled at; one must almost admire it when it is remembered this new fraud was being engineered at the very time your committee was holding hearings into not dissimilar matters. But there happened out of those hearings one of those accidents which makes history. It was the promise that Senator Wheeler received from Alleghany Corporation that it would sell its securities competitively. The consequences of our living up to this promise were farther reaching, I believe, than any of us hoped.

"There have been $1,762,000,000 of railroad bonds refunded in the year and a half since this competitive bidding rule went into effect, of which Morgan and Kuhn Loeb would have marketed $1,632,000,000 this new time if the old system of traditional banking preference had continued to prevail; whereas under the new system of competition Morgan and Kuhn Loeb were the high bidders on only $662,000,000.

"A Racket, Not a Business"

"Obviously, the railroads benefited in price on the $970,000,000 of bonds on which Morgan and Kuhn Loeb were overbid and most certainly these bankers paid higher prices on the $662,000,000 of bonds on which their bids were successful than they would have paid if there had not been competition to fear. Could there be any better evidence that what was going on before was a racket, not a business?

"In thus introducing competition, and saving two to five points on every bond issue, the railroads, the security holders and the public will be saved hundreds of millions, smaller bankers and dealers throughout the country are being given a chance at the business, and a great body blow has been struck at a vicious system. True, the concentrated control continues and this loss only makes the ruling houses more avid to retain what is left in the way of bank deposits, trusteeships, transfer agencies and the like.

"Some of the evils that flow out of this banker domination of the railroads can be seen in the patterns of uniform action. There was the pattern in the competitive bidding controversy. It was as if there were only two railroads in the country; one controlled by Alleghany, the other by Morgan. The Association of American Railroads appeared before the Commission, representing all the railroads except the C. & O., and pleaded that the two banking houses be kept in their position of preference. The intervention of the railroads against their own security holders, in the face of the record, was a gross violation of their obligations to their own security holders. The most that can be said for them is that they are not free agents. They have been, and will continue to be, lackeys of Morgan until this control is finally broken up.

Discusses Pullman Case

"The same pattern occurred in the Pullman case, C. & O. alone standing for progress. At a joint meeting of all the railroads in Washington three months after V-E Day, they agreed to ask the court for two years' delay from next April so the Pullman monopoly might enjoy two more years of high traffic earnings on its obsolete equipment. This in spite of the fact that the nation's sleeping car plant had collapsed and cannot be restored for years, that the 7,000 cars now in service average over 25 years in age; that then, three months after V-E Day, there was not a single new sleeping car on order and only 600 new cars had been built in 14 years.

"Although we were temporarily outmaneuvered by the common control of both the railroads and the Pullman Company, who were the two parties to the recent sale which should be challenged in the Supreme Court, the recent bid for the sleeping car business made by an independent group of which I am a member has at least to date forced the placing of a handful of orders for new sleeping car equipment, and also brought about action which compelled the resignations of Morgan representatives from the Pullman Board.

"Now we find the same pattern in our attempt to establish passenger service through the long-blocked Chicago, St. Louis terminals. No railroad has yet publicly responded to our advertisement, though it is clearly in the interest of each and every one of them to join C. & O. and Nickel Plate or any other carriers they like in this service.

Fear to Offend "Higher Ups"

"The Missouri Pacific, under the threat of [John W.] Stedman's voting trust, ignores us, although as owners of $11,000,000 of Missouri Pacific bonds and 60 per cent of its common stock, we have intervened in court to force Mr. [Guy A.] Thompson, the trustee, to join C. & O. in giving the public this service. Other railroads in reorganization, similarly intimidated by voting trusts, feel themselves compelled to ignore us, lest they offend the higher ups.

"Always it is the same pattern. Responsible federal and state officials charge that air conditioning in day coaches was discouraged when it was first introduced. Could this be because it would involve Pullman in heavy expense to keep pace with progress? Where would the automobile industry have been if it had agreed not to install starters? It is alleged that these men agree to eliminate competition in the arrival time of fast freights, and allow perishables to unnecessarily stand on sidings; that competition in the departure schedules of fast passenger and freight trains is eliminated to the vast inconvenience of the public; that they control the rate structure, not in the interest of the railroads or the public but in the interest of power, so that if a shipper misbehaves the higher ups can reach him. Is that how bank deposits are maintained, by keeping the shoe business away from Georgia? These men fail to encourage competition in the manufacture of equipment. What matters it if a Pullman car costs four times as much per pound as a Buick automobile? Think of it; that a box car is encumbered by one hundred and fifty items of patronage; that the manufacturer has to buy the doors, the ends, even the roofs from specified suppliers, all with the proper connections.

"Sometimes I wonder if the manufacturer is even allowed to furnish the hole through which the axle is greased. One builder of these patented devices died with a fortune of $20,000,000, but not without first remembering a score of railroad executives with legacies ranging from $25,000 to $100,000 each. The legatee in C. & O. promptly lost his job, but he was quickly given a new one by a locomotive manufacturer. The other 19 legatees, among whom are numbered the presidents of some of our largest railroads, are still playing the equipment manufacturer's game.

"Would the automobile industry keep in its employ an official who accepted a legacy of $100,000 from a supplier—a supplier running a patent racket? The very strength of the automobile industry has been its freedom from patents; its jealously scrutinized purchasing department. These railroad men are still buying ice for their refrigerator cars and throwing obstacles in the way of those who would manufacture self-refrigerated cars, although easily portable and highly efficient refrigeration machines have been procurable for more than twenty years.

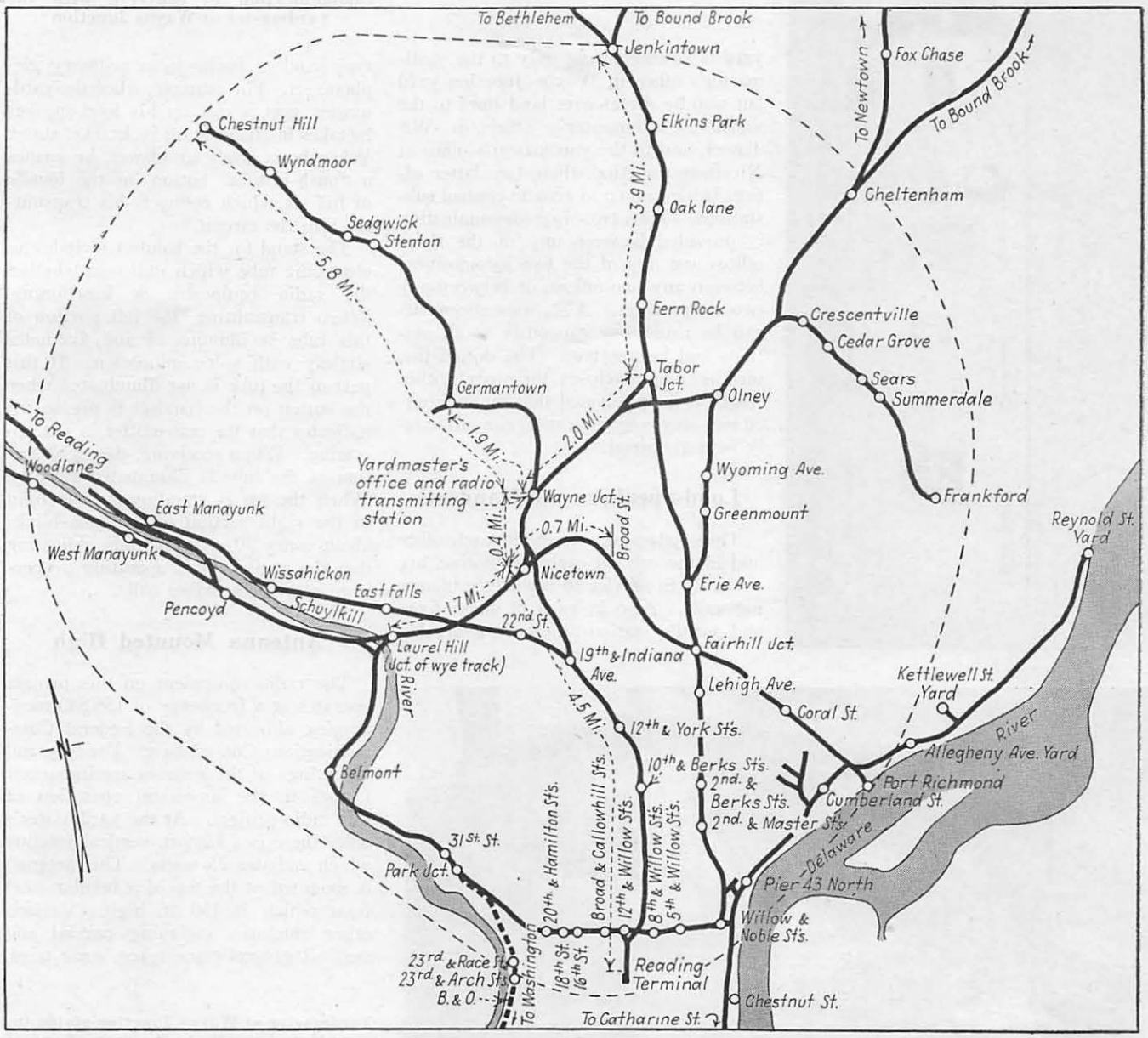
(*Continued on page 512*)

Yard Radio Tests on the Reading

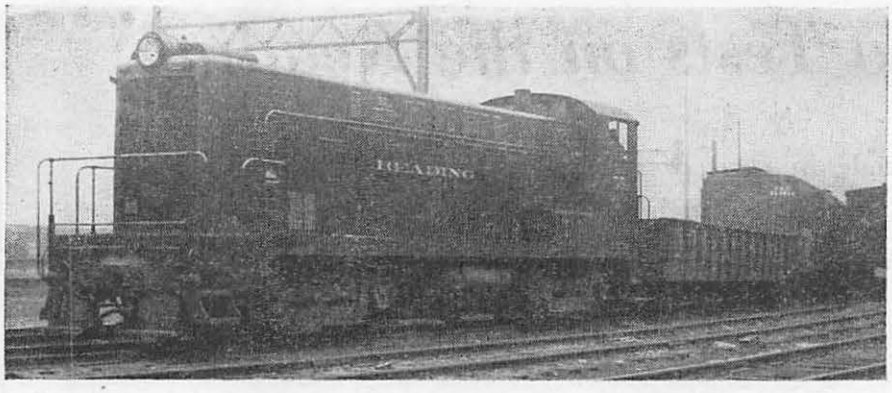
Installation made in yard presenting many difficulties to radio communication includes interesting features, such as automatic recorder and remote control substations

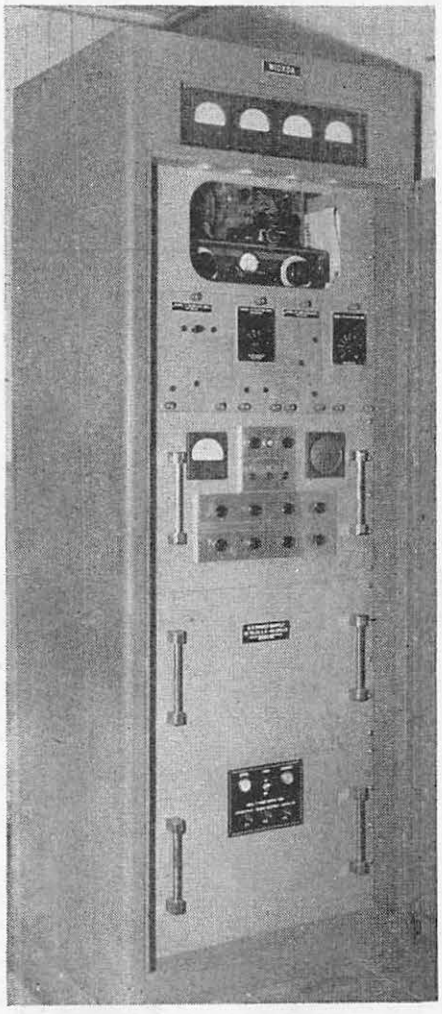
THE Reading is making a comprehensive test of radio communication in industrial switching yards in Philadelphia. The yard at Wayne Junction was selected for these tests because of the various conditions adverse to the use of radio; as for example, the maze of catenary structures, the numerous steel buildings and extensive tracks which converge at various levels in this district. Thus the results of this test are indicative of those which might be obtained in many other yards.

The radio system provides two-way communication between the yardmaster's office and the crews of five Diesel-electric switching locomotives, as well as between the crews of the locomotives. The principal fixed station, including the radio broadcasting and receiving equipment, is at the yardmaster's office in Wayne Junction yard. The locomotives frequently leave the yard to work outside the jurisdiction of the yardmaster. Also, two of the locomotives consistently operate in the vicinity of Nicetown Junction, and other locomotives work in this area frequently. Therefore, the radio transmitting and receiving equipment in Wayne Junction



The area enclosed by the dotted line on the map shows the territory within which it is anticipated that uninterrupted two-way radio communication can ultimately be maintained





Above—Diesel-electric switching locomotive No. 55, equipped with radio, is shown at work at Wayne Junction. Four other similar locomotives are equipped with radio. Left—The fixed station in the yardmaster's office at Wayne Junction consists of a transmitter and receiver mounted in a cabinet. The automatic recorder can be seen in the cut-out section at the front of the top cabinet below the meters near the top of the cabinet

Engineman of Diesel-electric switching locomotive No. 76 using two-way radio communication to converse with the yardmaster at Wayne Junction

yard is connected not only to the yardmaster's office in Wayne Junction yard but also by direct-wire land lines to the assistant trainmaster's office in WS Tower, and to the yardmaster's office at Nicetown Junction, these two latter offices being known as remote control substations. Thus two-way communication is provided between any of the three offices and any of the five locomotives; between any two offices, or between any two locomotives. Also, announcements can be made simultaneously to all stations and locomotives. The dotted line on the map encloses the area within which it is anticipated that uninterrupted two-way communication can ultimately be maintained.

Loud-Speakers and Handsets

The loud-speakers, one in each office and in the cab on each locomotive, are normally in service to reproduce incoming calls. Also in each of these fixed and mobile stations there is a bracket type handset similar to an ordinary telephone set. For example, when the yardmaster gets a call on his loud-speaker he takes his handset off its bracket stand. When he is ready to answer, he pushes a "push-to-talk" button on the handle of his set which connects his transmitter into the circuit.

The stand for the handset includes an electronic tube which indicates whether the radio equipment is functioning. When transmitting, the left portion of this tube is illuminated and fluctuates slightly with voice intonation. If this part of the tube is not illuminated when the button on the handset is pressed, it indicates that the transmitter is not operating. When receiving, the right section of the tube is illuminated steadily. When the set is standing-by, the light in the right section of the tube blinks about every 10 seconds, thus indicating that the equipment is operating properly to receive incoming calls.

Antenna Mounted High

The radio equipment on this project operates at a frequency of 156.540 megacycles, allocated by the Federal Communications Commission. The type and mountings of the antenna are important factors in the successful operation of this radio project. At the yardmaster's office there is a 12½-ft. vertical antenna which radiates 25 watts. This antenna is mounted at the top of a tubular steel mast which is 150 ft. high. Various other antennas, including coaxial and vertical ground-plane types, were tried,

Yardmaster at Wayne Junction giving instructions by radio to the crew of one of the five Diesel-electric switching locomotives equipped with radio

but the one used is best suited to conditions at this location.

On each locomotive the antenna is 17⅜ in. high and is mounted on a hatch cover on the top of the locomotive cowling. This antenna is of the half-wave vertical type, and radiates 15 watts. The use of higher wattage on the mobile units was not considered necessary because of the advantages of the 150-ft. antenna mast at the yardmaster's office.

How System Is Used

Call letters, assigned by the Federal Communications Commission, appear on name-plates mounted on the control box of each fixed and mobile station. The call letters of the fixed station at Wayne Junction yardmaster's office, with the sub-station in WS Tower at Wayne Junction and the substation in the yardmaster's office at Nicetown, are W10XDA. The call letters of the mobile stations on the five Diesel-electric locomotives are W10XDE, W10XDF, W10XDG, W10XDJ and W10XDK. The operation of all radio facilities is governed by the operating rules and regulations of the Federal Communications Commission.

Each radio message has three component parts; namely, the call, message test, and the message ending. An example of a call is: "Hello Wayne Junction, this is OE-84." Such a call is given when the engineman on a switching locomotive desires to contact the yardmaster at Wayne Junction.

Examples of a message or instructions are as follows:

"Hello OE-64, this is Wayne Junction. Cut off and move light to Wayne Junction. OUT."

"Hello OE-84, this is Wayne Junction. When finished with drag get Reading 87225 Wayne transfer side and deliver to Paramount. OVER."

"Hello Wayne Junction, this is OE-84. Expect to finish drag is about 10 minutes. Repeat car number. OVER."

"Hello OE-84, this is Wayne Junction. Car Number 87225. OVER."

"Hello Wayne Junction, this is OE-84. WILCO OUT."

"Hello OE-55, this is Wayne Junction. Move drag of coaches from Wayne car shop to Terminal. OUT."

"Hello Wayne Junction, this is OE-55. Coaches moved from Wayne car shop to Terminal track 16. Going back to regular work. OVER."

"Hello OE-55, this is Wayne Junction. ROGER OUT."

In message endings "OVER" means that transmission is ended and a reply is requested immediately. It also signifies to other stations that the circuit is still open and not to be interrupted. "OUT" indicates that the transmission is ended and no reply is required, and also that the conversation is completed and circuit is open for other traffic. "ROGER" means I have received your message, whereas "WILCO" indicates (1) I have received your message, (2) I understand your message, (3) I will comply with your message. "VERIFY" means to check subject matter and send current version, and "CORRECTION" indicates an error has been made in last transmission. "REPEAT" means to repeat last transmission.

This installation includes an automatic recorder by means of which a permanent record is made of all communication transmitted. With the first word of each call, a voice-actuated device starts the recorder within 1/10 second, and the recorder continues to operate until about 6 seconds after speech stops.

The machine records on noncombustible, cellulose-acetate film. The sound grooves are embossed in 115 parallel lines the full length of a 50-ft. strip which is spliced to form a continuous loop. Any portion of a recording can be played back.

This radio communication test project is under the supervision of E. W. Reich, superintendent telegraph and signals, and L. A. Moll, electronic and communication engineer of the Reading. The radio equipment was furnished by the Electronics Division of Maguire Industries, Inc., Bridgeport, Conn., and the automatic recorder by the Frederick Hart & Company, New York.

Section Hand to President

W. S. Hackworth is appointed to succeed the late Fitzgerald Hall on the N. C. & St. L.

WERTER S. HACKWORTH, who entered railway service as a track laborer on the Nashville, Chattanooga & St. Louis in 1916, was elected president of that railway at a meeting of the board of directors on February 26, as announced in the *Railway Age* of March 2. In this capacity, Mr. Hackworth succeeds Fitzgerald Hall, who died on February 7, and a sketch of whose career appeared in the *Railway Age* of February 16.

In taking over the executive direction of the N. C. & St. L., Mr. Hackworth assumes control of a company whose revenues were increased from an extremely low ebb when Mr. Hall took over in 1934 but, because of efficient management and the strategic location of the railway in respect to military installations, were raised to record heights during the war years. The N. C. & St. L. supplies an important connecting link between northern railways and those of the southeast, and through streamline passenger service between Chicago and Florida is operated over the main lines between Nashville, Tenn., and Atlanta, Ga. In addition, the N. C. & St. L. has an important secondary main line between Nashville and Memphis, Tenn., and a busy freight line between Bruceton and Paducah, Ky., as well as a number of other branches, which bring the total mileage of the railway to 1,071 miles.

Having been born in South Pittsburg, Tenn., on July 14, 1896, Mr. Hackworth,

Forstner Studios, Chattanooga, Tenn.

Werter S. Hackworth

at the age of 49, is one of the country's youngest railway presidents. He was graduated from Alabama Polytechnic Institute with a degree of civil engineering in 1916, and entered railway service as a track laborer with the N. C. & St. L. a few weeks later. On September 15, 1916, he was appointed instrumentman on the Chattanooga division of the N. C. & St. L., and on February 1, 1917,

he was promoted to assistant division engineer of the Huntsville division of the same railway. On May 28, 1917, he enlisted in the United States Army and served in France with the 17th Engineers. On his return from armed service in 1919, Mr. Hackworth served for a year and a half as city engineer of his home town, South Pittsburg.

He returned to the service of the N. C. & St. L. in October, 1920, as a rodman on the Atlanta division, and left that railway in June, 1921, to become a draftsman with a locating party on the Louisville & Nashville. In January, 1922, he returned to the N. C. & St. L. as assistant engineer in the office of the chief engineer, with headquarters at Nashville. From January, 1926, to December, 1931, he served as assistant division engineer of the Atlanta division. On January 1, 1932, Mr. Hackworth left railway service to become associated with the Whitewell Coal Corporation of Atlanta, Ga., as a salesman. On January 1, 1933, he was appointed superintendent of dairies and sanitation for the state of Georgia.

Mr. Hackworth returned to the N. C. & St. L. on September 1, 1933, as assistant engineer in the real estate department, and has remained in continuous service with that railway since that date, becoming real estate agent in July, 1936.

On October 1, 1939, Mr. Hall selected him as assistant to the president. In this position he conceived and worked out plans for modernization of the system, which included the installation of centralized traffic control, reduction of grades and the elimination or reduction of curves.

This program, which is estimated to cost nearly $6,000,000, is now in process of completion. Mr. Hackworth served two years on the general railroad committee for the study of transportation, and is now a member of the Nashville Chamber of Commerce and a director of the Nashville Trust Company.

Young Raps "Banker Control"

(*Continued from page 508*)

"The dry rot that has come from this pattern of banker control as opposed to ownership control, this elimination of competition in the railroad field—by those men who talk so much about free enterprise—has brought the largest and most essential industry in the richest nation in the world to the sad state where a dollar invested in it is not as good as an idle dollar in the bank. This fact is of such appalling significance in its impact upon postwar employment prospects and the need for further technological development in the railroad field that this committee which has rendered such great service could not have chosen a better vehicle to carry on its splendid record than this bill under consideration, S. 1253."

Mr. Young suggested some modifications and additions to the bill, speaking in that connection as follows:

"1. No road, however small, should be arbitrarily excluded from its benefits, nor should any securities be issued under Section 77 after the effective date of this bill. Justice is not a question of size, nor should it be withheld where it can still be dispensed. Obviously, this committee cannot go back into those situations in which securities have already been issued under Section 77 and correct the many wrongs which have been done, except possibly to the extent of dissolving the voting trusts for which there is no excuse whatsoever, and never has been.

"2. The required consent percentages, 75 and 51, respectively, should be applied not to the total amount of the issue outstanding, but to that portion of the issue sufficiently interested to vote; this because where coupons have not been paid for many years, security holders cannot always be located and notified and their failure to vote would, as the bill is written, be equivalent to a vote against the plan.

"3. The bill provides the mechanism for effecting amendments to indentures. It is not complete without making similar provisions for the amendment of charters with respect to stock provisions.

"The suggestion that Section 77 be amended to provide for a reappraisal of these reorganizations by the Interstate Commerce Commission offers nothing but the promise of a repetition of the delays and expenses of the past thirteen years.

"The Hobbs bill and the Reed bill, while pointing in the right direction, both set up artificial standards which must be applied without exception, whereas the record is filled with situations which are exceptional and require sympathetic and special consideration.

Prefers S. 1253 to Hobbs Bill

"This preference of ours for S. 1253 is confirmed by the unanimity with which the life insurance executive endorsed it before it was applied to the roads in which they had so carefully set up their voting trusts and which were much more in need of the doctor's treatment than hypothetical patients in the distant future. They cannot consistently come down here now to deny relief which a few weeks ago they endorsed so highly.

"Objections to S. 1253 on the grounds that it is a shame for all the hard work done under Section 77 to go overboard are not even worthy of consideration at the price of justice. When S. 1253 becomes law, we, together with the other security holders of Missouri Pacific, will promptly present a plan to the Interstate Commerce Commission that will be just and fair to all persons with an honest stake in this great property. We will do this immediately. No delays will be tolerated."

Referring to Missouri Pacific, Mr. Young said: "Mr. Sturgis and Mr. Stedman did make for Alleghany a few grudging concessions which came to be called the Compromise Plan—but you can be sure no corresponding concessions were made for all those poor little fellows caught in other bankrupt railroads who could not protest in full page advertisements. By defeating Stedman in the campaign of exposure we have saved the railroad up to now $45,000,000 in taxes. These savings will go on at the rate of nearly $5,000,000 per year.

Pessimism Must Go

"I understand that Mr. Stedman was in here yesterday still predicting calamity for the railroads. His record for inaccuracy of prediction has been startling, as Alleghany's advertisements in 1941 have shown. Who could be more poorly equipped to be entrusted with the stewardship of a railroad than one who can see no future in it? The first requirement of sound management is faith in the business. But I am not so charitable as to believe that Mr. Stedman's pessimism today is any more disconnected with his motives than was his pessimism in 1941—the preservation of his voting trust.

"Such pessimism must be eliminated from the railroads, by legislation if necessary, for $45,000,000 is too high a price to pay for it. Nor was this all that Mr. Stedman would toss to the winds. The Katy, Baltimore & Ohio, Nickel Plate, and Pere Marquette, and other border-line railroads not encumbered by the pessimism of Mr. Stedman or the mercies of Section 77 have used their large earnings to buy in their debt at huge discounts in the open market under a specific act of Congress which made such purchases for retirement tax-free. During the same period Mr. Stedman and his Missouri Pacific trustee jealously hoarded $100,000,000 to $150,000,000 in cash, yielding no return, and resisted petitions by security holders to repay the R. F. C. and other creditors receiving high rates of interest."

GENERAL NEWS

Maverick Ops Call a March 11 Strike

Trainmen and engineers ready to walk out, but leave some loopholes

Presidents A. F. Whitney of the Brotherhood of Railroad Trainmen and Alvanley Johnston of the Brotherhood of Locomotive Engineers announced March 6 that a nationwide strike of members of their respective organizations would become effective in stages beginning at 6 a.m. March 11, with the last group ceasing work at 6 a.m. March 14.

While union leaders would not say that the strike would be deferred, as contemplated by the Railway Labor Act, upon appointment by President Truman of an "emergency board" to review the dispute and recommend a settlement, it was conceded that this practice had been followed in previous nationwide wage controversies. The procedure is that emergency boards may have 30 days for "fact finding" and a similar period to formulate recommendations.

Technical seizure of the railroads by the government, as in the case of the Illinois Central last year, also could be resorted to as a means to avert the strike, it was pointed out.

In Chicago a statement issued by the conference committees representing the railroads in the arbitration of wage demands of the other 18 railway labor organizations, representing 85 per cent of all railroad employees, charged that the trainmen and engineers had "walked out" on federal mediation in violation of the terms of the Railway Labor Act.

"Originally all 20 rail unions presented rule change demands as well as demands for higher pay," the carriers' statement said. "During mediation the 15 non-operating unions withdrew rule demands and three operating unions, the Brotherhood of Locomotive Firemen and Enginemen, Order of Railway Conductors and the Switchmen's Union of North America, deferred action on rules. These 18 unions and the railroads agreed voluntarily to abide by the wage awards of the arbitration boards.

"President Johnston of the engineers and Whitney of the trainmen declined to defer rule changes. They also rejected the offer of the carriers to submit their wage demand to arbitration.

"The National Mediation Board then advised Johnston and Whitney that mediation would be resumed in Chicago February 11. The board and representatives of the railroads were there but officials of neither union appeared.

"The union leaders subsequently advised the board that they regarded mediation as terminated. On February 14, the board informed Johnston and Whitney that it was the sole authority to judge termination of mediation and that it regarded the wage-rule case as still in mediation. Meanwhile," the carriers' statement continued, "Whitney and Johnston have flaunted the law in calling this strike.

"According to the roads, the rules changes which are sought would be ruinous to railroad operating efficiency. Continuing, the statement declares "one of the many drastic rule changes demanded would compel the reduction of freight trains to seventy cars. Obviously this would increase the cost of moving freight which ultimately would reach into the pockets of the public. They also demand that passenger trains be limited to 14 cars. The demand for passenger transportation now taxes railroad capacity and it would seem that the brotherhoods have little or no regard for the traveling public.

"The 45 rule changes demanded would result in an addition of $785 million annually to the nation's transportation bill, exclusive of any wage increases."

I. C. Accepted 9,322 Employee Suggestions in 1945

Of 45,474 ideas for improving the operations of the Illinois Central, submitted by employees of that road in 1945, 9,322 were deemed worthy of adoption. This was an award rate of 21 per cent of the total submitted.

Cash payments for these ideas added $124,265 to the income of the suggestors, an average payment of $13.33 per adopted idea. In the seven years of operation of the suggestion system there have been 173,562 ideas submitted, of which 28,898 have received awards totaling $339,584. For the eighth year two objectives have been announced: A quantity goal of one suggestion from every worker; a quality goal of 25 awards per 100 suggestions.

United Kingdom Plans Tourist Campaign

The Travel Association of Great Britain and Ireland will promote a drive to reestablish tourist traffic in 1947, according to the U. S. Department of Commerce. The British government has agreed to contribute one pound for each pound subscribed by members of the Association, which includes municipalities, hotels, tourist agents, and commercial companies. A national publicity committee has been formed for coordinating overseas publicity. Films featuring British attractions will be shown in the United States and tourist pamphlets in English, French, Portuguese and Spanish will be distributed in foreign countries.

Misleading Figures by Op Wage Witness

Economist submits "averages" which omit all earnings over $300 a month

The arbitration proceedings, which are considering the demands of three railway operating unions for a wage increase of $2.50 per day, are continuing daily in Chicago. A brief report of the testimony on February 26, 27 and 28 and March 1, 2 and 4 follows:

The February 26 hearing opened with a continuation of the testimony of E. L. Oliver, labor relations consultant and economic analyst, appearing as a witness for the organizations. Mr. Oliver first introduced an exhibit designed to show the pattern of wage increases made or recommended in industries, national in scope, since the first of the war. In his discussion of the exhibit he sought to leave the impression that, on an hourly basis, railways had failed to keep pace with the increases in wages paid or recommended in other nationwade industries and that in most cases railway pay scales were now, or were about to become, less in cents per hour than those paid in other industries. This was followed by an exhibit purporting to show "physical hazards of transportation and outside employment."

The period covered was from 1939 to 1943, inclusive, for other industries and from 1936 to 1943, inclusive, for transportation employees. In comparing the accident rates of the transportation and manufacturing industries Mr. Oliver said that in 1939 the railroads had a total of 18.6 non-fatal accidents per million man-hours worked, while by 1943 the total had risen to 36.3 per million man-hours. In the manufacturing industries the 1939 rate was 14.1, while in 1943 it had risen to 19.4.

In response to a question by R. W. Brown, president of the Reading and a member of the arbitration board, Mr. Oliver admitted that the question of whether or not manufacturing industries reported their accidents in as complete and accurate a manner as the railroads was a controversial subject, but stated that he believed the reports for outside industry were "likely to be at least as accurate and complete as those of the railroads."

Following his testimony on safety, Mr. Oliver introduced an exhibit entitled "relation between the cost of living and wages of transportation employees" in which he sought to show that the average annual earnings of the transportation employees of the railroads had failed, since the end

(*Continued on page 517*)

Lincoln Anti-trust Suit Nearing Trial

Carriers tell court Justice Dept. ignores law in prosecuting them

The government's anti-trust suit against 47 western railorads, 90 railway and banking officers and two railway associations is expected to open by next summer before Federal Judge John M. Delehant at Lincoln, Neb., following the filing by the carriers, on March 4, of a brief in answer to the amended bill of particulars filed by the Department of Justice, and denying violation of the Sherman Act and asking dismissal of the action. The two associations named as defendants in the government's action are the Association of American Railroads and the Western Association of Railway Executives.

The original charge brought by the Department of Justice alleged that the defendants conspired to maintain noncompetitives rates and monopolize transportation in the western part of the United States. The answer filed by the carriers charged that the action had been "illegally commenced" because of the issuance in 1943 of Certificate 44 by the War Production Board which directed that no anti-trust prosecution be commenced by reason of action taken through rate bureaus or similar organizations in the initiation and establishment of rates, fares and charges. The answer read in part:

"Functions performed by rate bureaus and other similar carrier organizations are an absolute necessity both as a practical matter and by legal requirement and are indispensable in the public interest.

"Both the Interstate Commerce Commission in approving or fixing rates, and the defendant railroads in initiating rates, are required to do so with a view to carrying out the national transportation policy declared by Congress; that under the policy, rates must be established and maintained all to the end of developing, co-ordinating and preserving a national transportation system; that each defendant railroad in establishing a rate, whether it be local or joint, must view the rate structure, of which the rate to be established is a part, in its entirety; that the railroad rates throughout the country are parts of an integral whole and the railroad rate structure is not a loose aggregation of separately established rates, but a single entity composed of interrelated rates."

Railroad counsel pointed out that rate bureaus do not have the power to make rates. Each railroad initiates and establishes its own rates and no railroad is bound by any action taken by any rate bureau. It was also pointed out that the rate bureau procedure reduces litigation before the I. C. C. to a minimum.

The defendants denied that they were parties to any agreement to impose, upon western shippers, freight rates higher than those for comparable service in the East, or that they have agreed to fix rates for transport of petroleum by rail and pipe line at noncompetitive levels. Nor was there any agreement, the answer said, to withhold improved transportation equipment and facilities, as charged by the Justice Department.

Record Month for Grand Central

Passenger traffic handled by the New York Central in and out of Grand Central Terminal, New York, in January was the greatest in any one month since the terminal's opening in 1913. It totaled 3,076,011, against the previous high of 3,008,750 for October, 1945. Combined traffic through the terminal of the New York Central and New Haven Railroads in January reached 5,598,723, an increase of five per cent over that for January last year and 44.8 per cent above the same month in 1942.

Hunt Succeeds Winslow as Head of Forest Products Lab.

George M. Hunt, assistant director of the Forest Products Laboratory of the Department of Agriculture, has assumed the directorship of the laboratory succeeding Carlile P. Winslow, who has resigned to become a consultant in the forest service of the Department of Agriculture. Mr. Hunt will maintain headquarters at Madison, Wis., and the former chief will be located at Washington, D. C. The laboratory was organized in 1910 by the Department of Agriculture and the University of Wisconsin.

"Railroadians" Offer Booklet

The Railroadians of America have published a 16 page, 8 in. by 11 in. booklet on the art of railroad historical research. The booklet, entitled "Railroad Historical Research," outlines the data that must be included in a history, suggests sources of the various types of information, and attempts to tell the beginner how to assemble his information into a readable history.

Copies of the booklet may be obtained free (as long as the supply lasts) from N. G. Bergenholtz, secretary of the Railroadians of America, 1416 Munn avenue, Hillside, N. J.

President of New York Central to Address Coast Group

Gustav Metzman, president of the New York Central, will be the principal speaker at a meeting of the Pacific Coast Transportation Advisory Board to be held March 21 at the Biltmore hotel, Los Angeles, Cal. Mr. Metzman's address, to be given at a luncheon sponsored jointly by the shipper organization and the Los Angeles Transportation Club, will cover the transportation outlook and what the railroads are doing to improve their equipment and services.

A talk on the national transportation situation by Caleb R. Megee, vice-chairman of the Car Service Division of the Association of American Railroads, will feature a business session of the advisory board to be held the same day, along with the forecast of carloadings for the second quarter of the year and the presentation of committee reports. Harold D. Weber, general chairman of the shipper group and general manager of the Oakland Chamber of Commerce, will preside.

Five of the board's committee will hold preliminary meetings March 20.

Unions' Testimony Ends in Non-op Case

Oliver edifies arbitrators with wage figures as he did in ops' case

Arbitration proceedings, in which the wage demands of the fifteen co-operating non-operating unions were seeking an increase in pay of 30 cents an hour, commenced on February 18, and, after a brief recess until February 22, have been continuing daily, except Sundays, until the close of the hearing on February 26, when a recess to March 2 was taken. A brief report of the testimony on February 26 and on March 2 and 4 follows:

The hearing on February 26 opened with the resumption of testimony by T. L. Jones, vice-president of the Brotherhood of Maintenance of Way Employees, who appeared as a witness for the unions. Mr. Jones said that regular railroad maintenance-of-way employees, although they are charged with the definite responsibility of seeing that the track is kept safe for the passage of trains, receive less pay than the employees of certain contractors who specialize in track work and who perform, he said, substantially the same type of work. He also claimed that during the recent years of war-time labor shortages these contractors, because of their allegedly higher wage scales, were able to obtain adequate track labor with little difficulty while the carriers were unable to hire as many maintenance-of-way employees as they needed.

Upon completion of Mr. Jones' testimony, V. O. Gardner, president of the Order of Railroad Telegraphers, took the stand as a witness for the unions, outlining the duties of the employees represented by him, and stressing the responsibility assumed by some of these men and the "strain" imposed by certain types of high-speed communication instruments. Mr. Gardner was followed on the stand by another union witness, Jesse Clark, grand president, Brotherhood of Railroad Signalmen of America, who testified as to the high degree of skill required of signalmen and the allegedly increasing responsibility required of this class of employee.

Mr. Clark also stated that wages had failed to match rising living costs both in small communities and in the larger cities. As a final argument he charged that the carriers pay less for the more complicated work of wiring and installing signals in the field than private contractors do for the relatively simple preliminary work of construction such as erecting poles, stringing wire, etc., and he stated that this policy had handicapped the roads in securing sufficient personnel in the signal department.

W. J. Van Buren, secretary-treasurer of the National Organization of Masters, Mates & Pilots of America, followed Mr. Clark to the stand as a witness for the unions, testifying in regard to conditions applicable to the railways' employees who are engaged in water-borne operations. Mr. Van Buren's testimony was mainly devoted to a description of the duties, respon-

sibilities and hazards of this type of employment, concluding with the statement that "due to the decreased purchasing power of money" an increase in wages of thirty cents an hour is necessary to maintain the standard of living for these employees.

The concluding union witness for February 26, was George Brown, international vice-president of the Hotel & Restaurant Employees International Alliance, which represents certain classes of dining car employees and coach attendants. After outlining the duties and responsibilities of the employees represented by him, Mr. Brown charged that railway dining-car employees are and always had been, inadequately paid.

In answer to a question put by W. T. Faricy, attorney for the carriers, Mr. Brown said that his organization favored, and would join with the carriers in promoting, a rule forbidding tipping in dining cars provided what the organization termed an "adequate wage" were paid. Asked if he would consider such a rule if the requested wage increase of thirty cents were granted in its entirety, he stated that a big step in that direction would have been taken but that the matter would require further negotiations for final settlement.

The following day, February 27, immediately upon opening the session the proceedings were recessed until March 2, due to the fact that the unions' next witness, E. L. Oliver, labor relations consultant and economic analyst, was appearing before the board sitting in the case of the operating unions.

Hearings were resumed on March 2, with E. L. Oliver taking the stand as a witness for the unions. Mr. Oliver's first exhibit was entitled "wage levels in outside industry, 1921 to 1945, manufacturing industries reported by the National Industrial Conference Board," in which he atttempted to compare hourly wages paid non-operating railway employees with those paid in other industries. The exhibit, after comparing hourly earnings, not wage rates, of specific industries with those paid non-operating railway employees, contained a table showing what purported to be a comparison of the average hourly earnings of employees in 25 manufacturing industries with these railway employees.

According to Mr. Oliver, the average earnings of non-operating railway employees in 1921 was 59.0 cents an hour, 6.6 cents in excess of the 52.4 cents an hour average hourly earnings of employees of manufacturing industries. By September 1945, he said, railroad earnings were 87½ cents an hour, while manufacturing employees had earnings of 108.9 cents hourly. Since 1936, he added, manufacturing employees' wages have increased 17 cents an hour more than those of railway employees —9.8 cents an hour more since January, 1941; and 8.6 cents an hour more since December 1, 1941.

The witness asserted that common labor in the manufacturing industry received 43.7 cents an hour in 1921, and in the building industry, 54 cents an hour both to be compared with an average for all non-operating employees of 59 cents an hour. For September, 1945, he said, the corresponding figures for common labor were 91.4 cents an hour in manufacturing, and 91.7 cents hourly in the building industry compared with 87½ cents an hour for all non-operating railway employees.

Mr. Oliver's second exhibit was similar to the one described above except that the wage levels in outside industry were as reported by the United States Bureau of Labor Statistics and covered the period 1932 to 1945. After presenting evidence relating to the relationship between hourly earnings in individual industries and those of non-operating railway employees, Mr. Oliver presented a summary in which he said that in 1932 the average wage paid the employees of durable goods industries was 3.1 cents hourly below that paid the railwaymen while in September, 1945, it was 19.8 cents above.

For the non-durable goods industries the employees of manufacturing industries received 11 cents an hour less in 1932 than non-operating railroad workers, while in September, 1945, they received 3.9 cents less on an hourly basis. In answer to a question by W. T. Faricy, attorney for the carriers, Mr. Oliver said that these hourly wages were earnings, including overtime, and were not merely straight-time wage rates.

The hearings continued on March 4, with Mr. Oliver appearing for the unions, again their only witness. Mr. Oliver's first exhibit for the day was designed to compare the wage levels of the non-operating railroad employees with wage levels of employees of non-manufacturing industries. It covered the period 1932 to 1945 and was based on figures published by the Bureau of Labor Statistics. Like the two exhibits of the preceding day, average hourly earnings, including over-time, rather than actual hourly wage rates were shown. This exhibit was followed by one captioned "wage levels in outside industry, post-war industries." In these two exhibits, based on newspaper and other reports, Mr. Oliver included data on changes in various wage rates in numerous industries, which changes, he said, would apply in addition to the average hourly earnings mentioned preceding exhibits.

In Mr. Oliver's next exhibit he compared wage rates for certain employees of the Pennsylvania and Central Greyhound bus lines with railroad wage rates for corresponding positions at the same cities, in an effort to prove that, for the same class of work, railroad wages were somewhat lower than those paid by these bus companies. For the most part the comparison was confined to station employees. He then presented an exhibit entitled "increased hazards of railway service, non-operating employees." In this exhibit Mr. Oliver endeavored to show that the accident rate per million man-hours of non-operating employees had risen 39½ per cent from 1936 to 1943.

There followed an exhibit entitled "cost of living and wages of non-operating railway employees." In explaining this exhibit, Mr. Oliver said that the average annual earnings of railroad non-operating employees was $2,361 in 1944, based on the middle-of-the-month count of employees, and $2,110 based on the total payroll count. Against that, he asserted that the minimum cost of living based on the "Heller" budget is $3,030 if adjusted for a national average. With respect to the increased cost of living, the witness said that a man who received wages totaling $2,500 in 1941 would, based on living costs prevailing in September, 1945, have required an annual income of $3,572, an increase of 42.9 per cent, if he were to have maintained his living standard unimpaired.

Mr. Oliver's next exhibit was entitled "Material progress of the United States, 1919-1939," in which he sought to prove that high wages were a necessary factor in the material progress of the nation and that real wages of transportation employees had fallen behind wages of employees of other industries. This was followed by an exhibit captioned "output and efficiency of railway employees." In explaining this exhibit, the witness stated that in 1939 the railroads handled 95 per cent more traffic per employee and 93 per cent more traffic per man-hour than in 1920. In 1944, he said, there was an increase of 12½ per cent in gross ton-miles handled per man-hour compared with 1941 and of 23 per cent since 1936.

On a revenue basis, he asserted that revenue per employee in 1944 was 100 per cent greater than in 1921 and 77 per cent greater per man-hour.

This exhibit was followed by one captioned "wage levels, labor efficiency and economic progress," in which Mr. Oliver presented quotations of various government and business leaders of the past 15 years in support of the theory that "full employment" and high wages are necessary to a rising standard of living in this country. Next came an exhibit entitled "prospective reduction in take-home pay of American wage earners," which purported to show the relationship between the reduction to be anticipated in take-home pay in manufacturing and non-manufacturing industries with the non-operating railway employees. For manufacturing industries, Mr. Oliver estimated that, as compared with war-time conditions, the work-week will decline 7½ hr.; in non-manufacturing industries about 6 hr.; and for non-operating railway employees about 4.75 hr. To overcome the effects of this, he believes the railwaymen should receive a pay increase of 18½ per cent if take-home earnings are not to be impaired.

Mr. Oliver's next exhibit was titled "wage earners, primary market for American industry and agriculture," and was designed to show the relationship between the income of wage earners and the market for American products. This exhibit was identical with one filed in the operating employees' case and is discussed in a report of the testimony in that case, which appears elsewhere in these columns.

Mr. Oliver's final exhibit for the day was captioned "railway finance statistics" and was identical with an exhibit introduced in the operating case which is also reported in the account herein of the proceedings in the operating case. The testimony of the unions was concluded at the hearing on March 5, following which, commencing on March 6, the arbitration board met in joint session with the board sitting in the case of the operating employees to hear the evidence presented by the carriers.

Freight Car Loadings

Carloading figures for the week ended March 2 were not available when this issue went to press.

Loading of revenue freight for the week ended February 23 totaled 723,281 cars, and the summary for that week as compiled by the Car Service Division, A. A. R., follows:

Revenue Freight Car Loading

For the Week Ended Saturday, February 23 District	1946	1945	1944
Eastern	135,934	152,557	157,507
Allegheny	136,617	170,080	174,502
Pocahontas	58,117	57,000	55,411
Southern	134,591	127,534	123,965
Northwestern	60,243	78,617	85,814
Central Western	118,115	118,676	114,837
Southwestern	59,664	67,732	68,888
Total Western Districts	238,022	265,225	269,599
Total All Roads	723,281	772,396	780,984
Commodities:			
Grain and grain products	51,720	40,465	48,084
Livestock	17,223	12,982	15,648
Coal	164,186	170,354	177,135
Coke	8,852	15,479	15,306
Forest Products	37,650	37,466	42,556
Ore	7,288	12,191	13,322
Merchandise l.c.l.	113,883	101,633	102,271
Miscellaneous	302,479	381,916	366,662
February 23	723,281	772,396	780,984
February 16	707,034	784,703	774,237
February 9	713,240	755,832	793,181
February 2	723,135	739,556	805,714
January 26	709,130	759,623	810,890
Cumulative Total, 8 weeks	5,750,330	6,056,142	6,312,816

In Canada.—Carloadings for the week ended February 23 totaled 65,538 cars, as compared with 67,395 for the previous week and 66,565 for the corresponding week last year, according to the compilation of the Dominion Bureau of Statistics.

Totals for Canada:	Total Cars Loaded	Total Cars Rec'd from Connections
February 23, 1946	65,538	35,627
February 24, 1945	66,565	38,883
Cumulative Totals for Canada:		
February 23, 1946	516,596	271,508
February 24, 1945	510,894	279,000

One-Man Campaign for Economic Freedom

L. E. Faulkner, vice-president and general manager of the Mississippi Central, is continuing his program of education in economic freedom. Letter 14 in his "Bill Smith" series of circulars is accompanied by a printed copy of an address delivered by Mr. Faulkner before the Rotary Club of New Orleans entitled "America at the Crossroads." In this address, Mr. Faulkner states that we have followed the "Constitutional highway," on which the government is the servant of the people, for over 150 years.

The other road, which tempts us with "economic security from the cradle to the grave," has no standard of right and justice, except that suited to the ever-changing wishes of the "political demagogues," and it will cost us our freedom, Mr. Faulkner asserts.

In letter 14, "Bill Smith" discusses some recent assertions of Henry Wallace and Victor G. Reuther of the P. A. C. to the effect that the time is ripe for "progressive action." Bill Smith urges that all persons interested in "keeping America American" write their Congressmen, asking them to take no action which would destroy the American system. The Mississippi Central offers free copies of the "Bill Smith" letters on request.

January Truck Traffic

Motor carriers reporting to the American Trucking Associations transported during January 1,766,389 tons of freight, an increase of 9.2 per cent above the 1,617,047 tons transported in December, 1945, but a decrease of 8.3 per cent from the January, 1945, total of 1,925,348 tons. The A. T. A. index number, based on the 1938-1940 average monthly tonnage of the reporting carriers, was 178.3 for January.

The foregoing figures, according to the A. T. A. statement, are based on reports from 207 carriers in 36 states. Truckers in the Eastern district reported a tonnage increase of 9.7 per cent over December, but a decrease of 7.1 per cent from January, 1945. In the Southern region there was a 4.5 per cent increase over December, but a drop of 13.2 per cent below January, 1945. Tonnage reported from the Western district averaged 9.9 per cent over December, but decreased 8.9 per cent from the January, 1945, figure.

A. A. R. Executives Honored by Treasury Department

Five executives of the Association of American Railroads received the U. S. Treasury Silver Medal for distinguished service in war finance in ceremonies held at Washington, D. C., on March 1. The awards were presented in recognition of "the fine cooperation given to the war finance program throughout the period of the national emergency, 1941-1945, by the entire personnel of the association."

Recipients of the medal from Walter H. S. O'Brien, executive officer, railroad unit, War Finance Division of the Treasury, included J. J. Pelley, president; Charles H. Buford, retiring vice-president in charge of operations and maintenance, who recently was named executive vice-president of the Chicago, Milwaukee, St. Paul & Pacific; A. F. Cleveland, vice-president in charge of traffic; E. H. Bunnell, vice-president in charge of finance and accounting, and Col. Robert S. Henry, assistant to the president and head of the public relations section. Distinguished service citations accompanied the medals.

In presenting the medals Mr. O'Brien declared "the assistance given the Treasury by officers and all ranks of the A.A.R. has been outstanding throughout the war finance program during which period the staggering total of $186,000,000,000 was sold to non-bank investors in a little more than four years. Since Pearl Harbor, the payroll savings investment of the employees of the Association has reflected credit alike upon their patriotism and thrift. In honoring you officers, the Treasury Department honors them all."

Canada's Railways Get Reprieve in Aviation "Death Sentence"

The Canadian government has passed an order extending for a year the right of the Canadian Pacific Railway to operate its own air lines, that is, up to May 8, 1947.

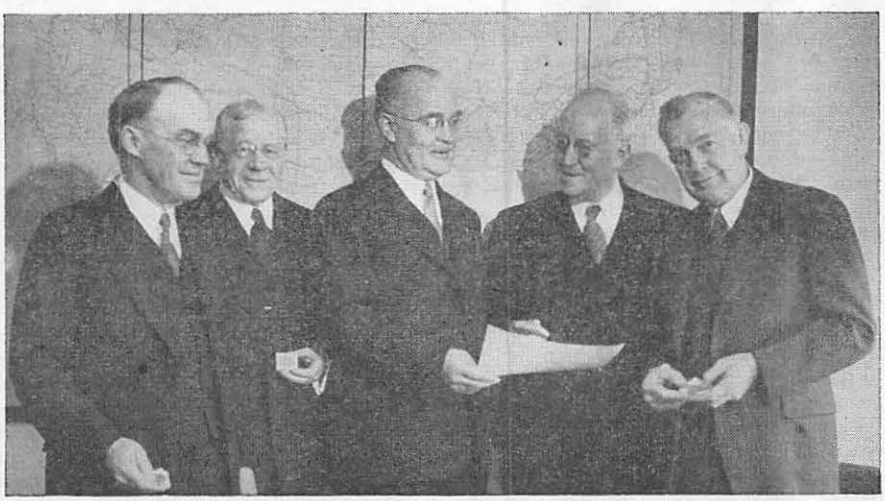
Reconstruction Minister C. D. Howe, who is responsible for government policy on air business, refused to say if this meant any easing in the government demand that both the Canadian Pacific and Canadian National Railways divorce themselves from their air lines. His comment was: "All I can say is that the Canadian Pacific is all right for another year."

Legislation was passed by the Canadian Parliament two years ago which would require both Canadian railways to get out of the air business by one year after V-E Day, but, because of many adverse conditions, chiefly the inability to get planes, the government apparently believes the air business is enough to keep both railways going for a considerable time, and that to insist upon any divorce at this time would impose needless hardship.

To Discuss Railroads' Plans on Chicago Broadcasts

The transportation outlook and what the railroads are doing to produce better, safer and more economical ransportation will be discussed on two radio programs to be presented by Chicago stations in connection with the 45th annual meeting of the American Railway Engineering Association in Chicago.

The first will be broadcast by Station



Left to right—Buford, Cleveland, O'Brien, Henry, Bunnell

WLS as a part of its "Dinner Bell" program on March 12 from 12 to 12:30 p. m., central standard time. Robert S. Henry, assistant to the president of the Association of American Railroads; Arthur H. Gass, director of the Railway Transport Department of the Office of Defense Transportation, and C. H. Mottier, vice-president and chief engineer of the Illinois Central, will participate.

The second broadcast will be presented by Station WAAF on March 14 from 5:15 to 5:30 p. m., central standard time, when J. B. Akers, chief engineer of the Southern; A. A. Miller, chief engineer maintenance of way of the Missouri Pacific, and Miss Olive W. Dennis, research engineer of the Baltimore & Ohio, will be heard.

Both programs will be conducted by Albert R. Beatty, a manager of the public relations department of the A. A. R.

Transport Institute Students Meet Washington Officials

Thirty-seven students, including several veterans, representing railroads in every section of the country, who currently are enrolled in the Rail Transportation Institute at American University, Washington, D. C., were the guests March 3 of Paul F. Douglass, president of the university, where they were welcomed by members of Congress and railroad officers. An outline of the institute program appeared in *Railway Age* of February 2, page 293.

Among those greeting the students were Senators Burton K. Wheeler and Warren R. Austin, Representatives O. M. Harris, Alfred L. Bulwinkle and John B. Sullivan, and Interstate Commerce Commissioner Walter M. W. Splawn. Other guests included C. A. Miller, vice-president and general counsel, American Short Line Railroad Association; Carl B. Walker, assistant to the vice-president of the Southern; J. B. Akers, chief engineer of the Southern; A. W. Kohler, manager, National Association of Bus Operators; H. K. Snell, professor of transportation, University of Southern California; James C. Nelson, chief, Transportation Division, Department of Commerce; E. H. Bunnell, vice-president, Association of American Railroads; Col. Robert S. Henry, assistant to the president, A. A. R., and Harry A. DeButts and E. R. Oliver, vice-presidents of the Southern.

3rd Quarter Loading Estimates Missed by 4.5 Per Cent

The Regional Shippers Advisory Boards overestimated carloadings for last year's third quarter by 4.5 per cent, according to the latest comparison of the forecasts with actual loadings, issued this week by W. C. Kendall, chairman of the Car Service Division, Association of American Railroads. The variations by individual boards ranged from an overestimate of 12.6 per cent to an underestimate of 9.2 per cent, while the variations by commodities ranged from an overestimate of 33.2 per cent to an underestimate of 12.2 per cent.

The report shows that there were overestimates in 16 commodity groups and underestimates in 11 groups. Overestimates also resulted in 10 board districts and underestimates in three board districts. The third-quarter overestimate of 4.5 per cent is a marked increase over the two previous quarters. An overestimate of 0.1 per cent resulted for the second quarter of 1945 and 2.8 per cent for the first quarter of that year.

"It is interesting to note," Mr. Kendall pointed out, "that in the commodities the estimated trends were right in 17 and wrong in 10 groups. In view of the conditions existing in the third quarter of 1945, these forecasts are remarkably satisfactory as indicative of transportation trends."

Comparison National Forecast with Actual Loadings—Third Quarter 1945

	Carloadings Third Quarter 1945		Percentage of Accuracy Over Under	
	Est.	Actual	Est.	Est.
Allegheny	1,124,359	1,037,694	7.7	..
Atlantic States	688,800	633,083	8.1	..
Central Western	287,116	300,936	..	4.8
Great Lakes	528,035	524,689	0.6	..
Mid-West	939,016	912,274	2.9	..
New England	83,086	90,741	..	9.2
Northwest	832,198	799,502	3.9	..
Ohio Valley	1,004,997	962,680	4.2	..
Pacific Coast	333,544	305,745	8.3	..
Pacific Northwest	272,755	238,594	12.5	..
Southeast	765,448	746,051	2.5	..
Southwest	607,591	531,009	12.6	..
Trans-Mo-Kan	384,648	417,892	..	8.6
Total All Boards	7,851,593	7,500,890	4.5	..

Misleading Figures by Op Wage Witness

(Continued from page 513)

of the war, to meet the minimum needs of a working man and his family (wife and two children) by $65 a year, using the "Heller" budget as a standard of comparison. Mr. Oliver said that for 1942 the transportation employee exceeded the requirements of this so-called "minimum" living standard by $444 and exceeded it by $514 in 1944.

In explaining the "Heller" budget, Mr. Oliver said it included an allowance for income taxes and for personal transportation to and from work by automobile, in addition to such items as food, clothing, utilities, shelter, etc. In making his calculations Mr. Oliver included the full amount of wage payments, then deducted $225 as the estimated annual average away-from-home expenses of all transportation employees.

Mr. Oliver, in his exhibit, also endeavored to show that the real hourly wages, not including overtime, of transportation employees had fallen by 3.6 per cent in September, 1945, when compared with January, 1941, and by 4.6 per cent compared with 1939. On the other hand, he stated, an hour's pay of employees of manufacturing industries would purchase in September, 1945, 20 per cent more than in 1939, and 13 per cent more than in January, 1941.

Mr. Oliver's next exhibit was designed to show that over the period from 1919 to 1939 the real wages, based on hourly earnings, including overtime, of transportation employees had risen only 41 per cent, compared with a 76½ per cent increase for employees of manufacturing industries. According to Mr. Oliver, a major factor in the depression of the 30's was the failure of real wages to rise fast enough to utilize fully the products of industry. With respect to wages paid transportation employees, he charged that they "are not contributing to the increased standard of living that is growing about us."

Mr. Oliver's final exhibit was entitled "increase in service rendered per transportation employee" and purported to show the increased output per employee and per hour worked or hour paid for by the transportation employees over the period from 1936 to 1944 and 1945 primarily, but in some instances from 1921. Mr. Oliver presented various measurements to show the increased "productivity" of railroad labor, including the following:

Traffic units (three times passenger-miles plus actual freight ton-miles) per employee, he said, rose from 1,331 in 1921 to 3,280 in 1944. On the basis of traffic units per dollar of wages paid, there was said to be an increase from 614 units in 1921 to 758 units in 1940 and to 920 traffic units in 1944. Similar comparisons were made based on gross and revenue ton-miles, and on passenger-miles and passenger car-miles.

At the hearing on February 27, the unions introduced nine witnesses, all of whom are presently employed as local or general chairmen for the three operating unions participating in the arbitration and all of whom hold seniority rights on their respective roads. In general the testimony of these witnesses was designed to present the board with a fairly complete picture of the duties and responsibilities of men in train service. Points particularly stressed were the increases in away-from-home expenses of recent years and irregularity of hours of employment. "Hazards" due to slack action were made an important additional point by some of the witnesses for the conductors.

E. L. Oliver was recalled to the stand on February 28, presenting various exhibits in support of the unions' case. His first exhibit of the day was entitled "changes in length and load of railway trains" which covered the period from 1936 to 1944, inclusive, and which purported to show an increased load in each train on the basis of both gross and net tons per train in freight service, cars per train in both freight and passenger service, and passengers per train in passenger service.

This was followed by an exhibit titled "wage levels, labor efficiency and economic progress," which was composed primarily of excerpts from statements of various officials of government during the past 15 years and from some business leaders to the affect that high wages and full employment are essential to prosperity. In a discussion of the depression of the 1930's, Mr. Oliver said that in his opinion failure of wages to advance as rapidly as the expansion of industrial activity was one of the basic causes of the depression. In Mr. Oliver's opinion, another basic cause lay in over expansion of production facilities and capital goods as compared with production of consumer goods, which, he said, led to a condition in which the rate of consumption was unable to support the capital structure of the nation. In his opinion, had wages been pushed during the 1920's to a higher level, the depression of the 1930's would have been of relatively short duration, perhaps only a year or two.

Mr. Oliver's next exhibit was entitled "prospective reductions in take-home pay of American wage earners," in which he attempted to show that as more men become available train-service employees of the railroads will suffer a decline in their take-home pay of about 15 or 16 per cent, due to a reduction in the work week from 1944's average of 60.74 hours to about 52.78 hours, the average which prevailed in 1939.

There followed an exhibit captioned "wage earners, primary market for American industry and agriculture." According to Mr. Oliver, railway operating revenues constituted 7.2 per cent of gross national income in 1920, compared with 4.7 per cent in 1944, and 4.4 per cent in 1940 and 1941. In the same period railway wages declined from 8.3 per cent of the total national wages in 1920 to 4.3 per cent in 1939, when railway revenues were 4.5 per cent of gross national income. In discussing wage costs per thousand traffic units, Mr. Oliver admitted that since 1943 there had been a "slight" rise in wage payments but it was his contention that over a period of years, the roads had always been able to absorb increased wage payments and maintain this downward trend. In developing further his thesis that the nation's prosperity depends on high wages, Mr. Oliver said, "The future of the railway industry depends in very large part on the development of a consumers' market in the United States [according to Mr. Oliver's figures, 45.7 per cent of 1939's railway freight revenue was derived from the movement of consumer goods, not including building materials for houses]; or that is to say, on an increase in the purchasing power of the American workers, which is the most important single factor in the future of the American railway industry."

Mr. Oliver's final exhibit was entitled "selected railway revenue and expense statistics" in which he introduced statistics on gross and net incomes of the railways, both before and after taxes and, in addition, statistics concerning operating expenses, depreciation and amortization charges and wages. In general the witness endeavored to show that the railways today were more prosperous than at any time in their history. Supporting this point, an effort was made to prove that operating results for the last four months of 1945 actually followed the normal pattern of a peak in October succeeded by a seasonal recession in November and December and that the admittedly large declines in net income during these months were in reality due to high amortization rates of equipment purchased during the war, such rates being set up for tax purposes.

With respect to wages, Mr. Oliver said that railway wages now take 20 per cent less of the railway dollar of revenue than in 1921, and that in spite of wage changes this trend has continued with only temporary interruptions since that time. In comparison with other labor, the witness said that an hour's wages of a factory worker would purchase 57 per cent more railroad service in 1945 than it would have in 1939, while on the other hand, an hour's wages of a railway worker in 1945 would purchase 6 per cent less of the factory worker's output than it would have purchased in 1939. Mr. Oliver ascribed this situation to a continually declining average freight rate and failure of railway wages to rise as rapidly as the prices of manufactured items.

Upon the completion of his testimony with respect to this final exhibit, Mr. Oliver was cross-examined by Paul J. McGough, attorney for the carriers.

In cross-examination on February 28 and March 1 by Mr. McGough and Elmer A. Smith, senior general attorney for the Illinois Central and counsel for the carriers, the fact was brought out that the $2.50 increase in basic daily rates would, when applied to the road crews, in many cases, result in more than a $2.50 increase because these employees actually run more than 100 miles in a calendar day, while for yardmen an individual employee could not receive more than the $2.50 increase because he works on an hourly basis only, rather than on a combination hourly-and-milage basis. Mr. Oliver also admitted that in arriving at hourly wage rates for transportation employees, his second exhibit did not reflect compensation for constructive allowances nor did it take into account the effect of runs in excess of the basic daily mileage which were completed in less time than is contemplated by the wage schedules.

Concerning Mr. Oliver's evidence that the annual wage of transportation employees of the roads was $3,190 in 1945, it was developed that the average was based on Railroad Retirement Board figures which do not consider compensation in excess of $300 in any month, and that, therefore, the actual average annual earnings were higher than those used by Mr. Oliver.

Among the other matters made subject to cross-examination were those relating to the use of wages in other industries as proper indices in determining railroad wage rates, productivity of railway employees, and the trend in railway net income, including the effects of amortization of wartime improvements and payroll and equipment taxes on net. At the close of the hearing on March 1, the proceedings were recessed until March 6, at which time the carriers began the presentation of their evidence before the operating and non-operating boards in joint session.

Try Out New Music System on Santa Fe Trains

As the first experimental test of a plan to provide individual musical wire reproducers, radios and a public address system on its trains, the Atchison, Topeka & Santa Fe has outfitted one of its dining cars with wire reproducing units which will provide various types of music at the will of passengers. The car was placed in transcontinental service on March 10.

According to present plans each roomette, bedroom, compartment and drawing room will be equipped with a push-button selector, a loud speaker and a volume control which will permit choice of either radio or wire-reproduced popular or semi-classical music. A pilot lamp will notify passengers when the system is turned on so that they may "tune in" at will. As soon as labor and materials are available, similar installations will be made in chair and club-lounge cars as well as in all diners. These installations, however, will differ in that speakers will be placed in the ceilings of the cars to provide an even distribution of sound throughout the car.

Farnsworth Television and Radio Corporation of Ft. Wayne, Ind., designed the over-all integrated system being used in the test dining car, while the Brush Development Company, Cleveland, Ohio, developed the specially designed wire reproducers.

T. & N. O. Strike Averted

The threatened strike of train crews, members of the Brotherhood of Railroad Trainmen, on the Texas & New Orleans (Southern Pacific Lines in Texas and Louisiana), which was to have become effective at 12:01 a. m., March 2, was averted on March 1, by an agreement between the company and the organization to handle each individual case in dispute for settlement locally. An emergency board which was appointed by President Truman in order to avert the threatened strike was not used in reaching the agreement.

The strike threat arose from the inability of the parties to secure decisions involving the interpretation of working rules and contracts by the First division of the National Railroad Adjustment Board, which has been unable to function since the Supreme Court's decision in the Elgin, Joliet & Eastern case last June (*Railway Age*, June 16, 1945, page 1072).

Bridge to Replace Ferry on Mo. P. at Baton Rouge

The Missouri Pacific (Gulf Coast Lines) has announced its intention to replace the present ferry operation across the Mississippi river at Baton Rouge, La., by operations over the state owned combination railway and highway bridge, as soon as the necessary connecting tracks can be built.

In making the announcement, P. J. Neff, senior executive assistant in charge of the Texas-Louisiana lines of the Missouri Pacific, estimated that operation over the bridge would reduce the time for passenger trains running between New Orleans, La., and Houston, Tex., by 40 min., and for freight trains from three to four hours, as compared with ferry operations. Necessary permission to make the change has already been granted by the Interstate Commerce Commission, according to Mr. Neff.

Club Meetings

The Car Foremen's Association of Chicago will meet March 11, 8 p.m., at the LaSalle hotel, Chicago. The paper to be presented is entitled "Proposed Changes in A.A.R. Rules of Interchange Effective January 1, 1947."

The New England Railroad Club will meet at the Hotel Vendome in Boston on March 12. Dinner will be served at 6:30 p.m. and the meeting, to which all members will be welcome without reservation, will begin at approximately 7:45. Colonel E. G. Ringberg, who has recently returned from the Military Railway Service in Europe, will tell the members of some of his war experiences.

The Central Railway Club of Buffalo, the Transportation Club of Buffalo, and ten other Niagara frontier organizations will hold a joint meeting at the Hotel Statler in Buffalo on March 14 at 8 p.m. The meeting will be dedicated to "Perfect Shipping".

A Great Lakes Regional Advisory Board meeting has been scheduled for March 19-20 at the Hotel Carter, Cleveland. Guest speaker will be Clifford F. Hood, president of the American Steel & Wire Co., with President R. E. Woodruff of the Erie as toastmaster. A program of varied subjects has been planned.

Consolidated Statements Not Required for 1945

Upon request of the Association of Aerican Railroads, Division 1 of the Interstate Commerce Commission has waived, for the year ended December 31, 1945, its requirement that railroads with annual railway operating revenues of $10,000,000 or more file "consolidaated statistical statements." The original order requiring such statements was issued December 18, 1941, in spite of railroad opposition, and compliance was protested by some roads, particularly in view of the effect of war-time conditions on the work of their accounting departments. A summary of the 1942 returns was made public by the commission's Bureau of Transport Economics and Statistics in 1944, as its statement No. 4411.

Meetings and Conventions

The following list gives names of secretaries, dates of next or regular meetings and places of meetings:

ALLIED RAILWAY SUPPLY ASSOCIATION.—J. F. Gettrust, P. O. Box 5522, Chicago 80, Ill. Exhibit in connection with meetings of Coordinated Mechanical Associations, September 4-6, 1946, Hotel Sherman, Chicago, Ill.

AMERICAN ASSOCIATION OF BAGGAGE TRAFFIC MANAGERS.—E. P. Soebbing, 1450 Railway Exchange Bldg., St. Louis 1, Mo.

AMERICAN ASSOCIATION OF PASSENGER TRAFFIC OFFICERS.—B. D. Branch, C. R. R. of N. J., 143 Liberty St., New York 6, N. Y.

AMERICAN ASSOCIATION OF RAILROAD SUPERINTENDENTS.—Miss Elsie LaChance, Room 901, 431 S. Dearborn St., Chicago 5, Ill. Annual meeting, June 6-8, 1946, Hotel Stevens, Chicago, Ill.

AMERICAN ASSOCIATION OF RAILWAY ADVERTISING AGENTS.—E. A. Abbott, 1103 Cleveland St., Evanston, Ill.

AMERICAN RAILWAY BRIDGE AND BUILDING ASSOCIATION.—Miss Elsie LaChance, Room 901, 431 S. Dearborn St., Chicago 5, Ill. Annual meeting, September 17-19, 1946, Hotel Stevens, Chicago, Ill.

AMERICAN RAILWAY CAR INSTITUTE.—W. C. Tabbert, 19 Rector St., New York 6, N. Y.

AMERICAN RAILWAY DEVELOPMENT ASSOCIATION.—O. K. Quivey, B. & O. R. R., Baltimore 1, Md. Annual meeting April 10-11, 1946, Benjamin Franklin Hotel, Philadelphia, Pa.

AMERICAN RAILWAY ENGINEERING ASSOCIATION.—Works in cooperation with the Association of American Railroads, Engineering Division.—W. S. Lacher, 59 E. Van Buren St., Chicago 5, Ill. Annual meeting, March 12-14, 1946, Palmer House, Chicago, Ill.

AMERICAN RAILWAY MAGAZINE EDITORS' ASSOCIATION.—Virginia Tanner, Baltimore & Ohio Magazine, Room 1202, B. & O. Bldg., Baltimore, Md.

AMERICAN SHORT LINE RAILROAD ASSOCIATION.—J. P. Nye, Tower Bldg., Washington 5, D. C. Annual meeting, October 2-3, 1946, Morrison Hotel, Chicago, Ill.

AMERICAN SOCIETY OF MECHANICAL ENGINEERS.—C. E. Davies, 29 W. 39th St., New York 18, N. Y. Spring meeting, April 1-3, 1946, Hotel Patten, Chattanooga, Tenn.
Railroad Division.—E. L. Woodward, Railway Mechanical Engineer, 105 W. Adams St., Chicago 3, Ill. Spring meeting, April 2, 1946, Hotel Patten, Chattanooga, Tenn.

AMERICAN TRANSIT ASSOCIATION.—A. W. Baker, 292 Madison Ave., New York 17, N. Y.

AMERICAN WOOD-PRESERVERS' ASSOCIATION. — H. L. Dawson, 1427 Eye St., N. W., Washington 5, D. C. Annual meeting, April 23-25, 1946, Netherland Plaza Hotel, Cincinnati, O.

ASSOCIATED TRAFFIC CLUBS OF AMERICA, INC.—R. A. Ellison, Cincinnati Chamber of Commerce, 1203 C. of C. Bldg., Cincinnati 2, O.

ASSOCIATION OF AMERICAN RAILROAD DINING CAR OFFICERS.—H. S. Whited, 5th & T Sts., N. E., Washington 2, D. C.

ASSOCIATION OF AMERICAN RAILROADS. — H. J. Forster, Transportation Bldg., Washington 6, D. C.
Operations and Maintenance Department.—Charles H. Buford, Vice-President, Transportation Bldg., Washington 6, D.C.
Operating-Transportation Division. — L. R. Knott, 59 E. Van Buren St., Chicago 5, Ill.
Operating Section.—J. C. Caviston, 30 Vesey St., New York 7, N. Y.
Transportation Section.—H. A. Eaton, 59 E. Van Buren St., Chicago 5, Ill.
Communications Section. W. A. Fairbanks, 30 Vesey St., New York 7, N. Y.
Fire Protection and Insurance Section.—W. F. Steffens, New York Central, Room 3317, 230 Park Avenue, New York 17, N. Y.
Freight Station Section.—W. E. Todd, 59 E. Van Buren St., Chicago 5, Ill.
Medical and Surgical Section.—J. C. Caviston, 30 Vesey St., New York 7, N. Y.
Protective Section.—J. C. Caviston, 30 Vesey St., New York 7, N. Y.
Safety Section.—J. C. Caviston, 30 Vesey St., New York 7, N. Y.
Engineering Division.—W. S. Lacher, 59 E. Van Buren St., Chicago 5, Ill. Annual meeting, March 12-14, 1946, Palmer House, Chicago, Ill.
Construction and Maintenance Section.—W. S. Lacher, 59 E. Van Buren St., Chicago 5, Ill. Annual meeting, March 12-14, 1946, Palmer House, Chicago, Ill.
Electrical Section.—W. S. Lacher, 59 E. Van Buren St., Chicago 5, Ill.
Signal Section.—R. H. C. Balliet, 30 Vesey St., New York 7, N. Y. Annual meeting, October 14-16, 1946, New Ocean House, Swampscott, Mass.
Mechanical Division.—Arthur C. Browning, 59 E. Van Buren St., Chicago 5, Ill. Annual meeting, June 20-21, 1946, Congress Hotel, Chicago, Ill.
Electrical Section.—J. A. Andreucetti 59 E. Van Buren St., Chicago 5, Ill. Annual meeting, October 22-24, 1946, Hotel Sherman, Chicago, Ill.
Purchases and Stores Division.—W. J. Farrell (Executive Vice-Chairman), Transportation Bldg., Washington 6, D. C. Annual meeting, June 20-21, 1946, Palmer House, Chicago, Ill.
Freight Claim Division.—Lewis Pilcher, 59 E. Van Buren St., Chicago 5, Ill. Annual meeting, May 21-23, 1946, Hotel Sherman, Chicago, Ill.
Motor Transport Division.—George M. Campbell, Transportation Bldg., Washington 6, D. C.
Car Service Division.—E. W. Coughlin, (Assistant to Chairman), Transportation Bldg., Washington 6, D. C.
Finance, Accounting, Taxation and Valuation Department.—E. H. Bunnell, Vice-President Transportation Bldg., Washington 6, D. C.
Accounting Division.—E. R. Ford, Transportation Bldg., Washington 6, D. C.
Treasury Division.—E. R. Ford, Transportation Bldg., Washington 6, D. C.
Traffic Department.—A. F. Cleveland, Vice-President, Transportation Bldg., Washington 6, D. C.

ASSOCIATION OF RAILWAY CLAIM AGENTS.—F. L. Johnson, Alton R. R., 340 W. Harrison St., Chicago 7, Ill. Annual meeting, June 5-6, 1946, Hotel Pfister, Milwaukee, Wis.

BRIDGE AND BUILDING SUPPLY MEN'S ASSOCIATION.—E. C. Gunther, Duff-Norton Mfg. Co., 122 S. Michigan Ave., Chicago 3, Ill.

CANADIAN RAILWAY CLUB.—C. R. Crook, 4415 Marcil Ave., N. D. G., Montreal 28, Que. Regular meetings second Monday of each month, except June, July and August, Mount Royal Hotel, Montreal, Que.

CAR DEPARTMENT ASSOCIATION OF ST. LOUIS.—J. J. Sheehan, 1101 Missouri Pacific Bldg., St. Louis 3, Mo. Regular meetings, third Tuesday of each month, except June, July and August, Hotel De Soto, St. Louis, Mo.

CAR DEPARTMENT OFFICERS' ASSOCIATION.—F. H. Stremmel, 6536 Oxford Ave., Chicago 31, Ill. Annual meeting, September 4-6, 1946, Hotel Sherman, Chicago, Ill.

CAR FOREMEN'S ASSOCIATION OF CHICAGO.—Ralph J. Feddor, 2803 N. Campbell Ave., Chicago 18, Ill. Regular meetings, second Monday of each month, except June, July and August, La Salle Hotel, Chicago, Ill.

CENTRAL RAILWAY CLUB OF BUFFALO.—R. E. Mann, 1840-42 Hotel Statler, McKinley Square, Buffalo 5, N. Y. Regular meetings, second Thursday of each month, except June, July and August, Hotel Statler, Buffalo, N. Y.

EASTERN ASSOCIATION OF CAR SERVICE OFFICERS.—H. J. Hawthorne, Union Railroad, East Pittsburgh, Pa.

EASTERN CAR FOREMAN'S ASSOCIATION. — W. P. Dizard, 30 Church St., New York 7, N. Y. Regular meetings, second Friday of January, February (Annual Dinner), March, April, May, October and November, 29 W. 39th St. New York, N. Y.

LOCOMOTIVE MAINTENANCE OFFICERS' ASSOCIATION.—C. M. Lipscomb, 1721 Parker Street, North Little Rock, Ark. Annual meeting September 4-6, 1946, Hotel Sherman, Chicago, Ill.

MASTER BOILER MAKERS' ASSOCIATION. — A. F. Stiglmeier, 29 Parkwood St., Albany 3, N. Y. Annual meeting September 4-6, 1946, Hotel Sherman, Chicago, Ill.

NATIONAL ASSOCIATION OF RAILROAD AND UTILITIES COMMISSIONERS.—Ben Smart, 7413 New Post Office Bldg., Washington 25, D. C. Annual meeting, November 12-15, 1946, Los Angeles, Cal.

NATIONAL ASSOCIATION OF SHIPPERS' ADVISORY BOARDS.—W. B. Shepherd, Aluminum Company of America, Gulf Bldg., Pittsburgh 19 Pa. Annual meeting, October, 1946.

NATIONAL INDUSTRIAL TRAFFIC LEAGUE.—Edward F. Lacey, Suite 450, Munsey Bldg., Washington 4, D. C.

NATIONAL RAILWAY APPLIANCES ASSOCIATION.—C. H. White, Room 1826, 208 S. La Salle St., Chicago 4, Ill.

NEW ENGLAND RAILROAD CLUB.—W. E. Cade, Jr., 683 Atlantic Ave., Boston 11, Mass. Regular meetings, second Tuesday of each month, except June, July, August and September. Hotel Vendome, Boston, Mass.

NEW YORK RAILROAD CLUB. — D. W. Pye, 30 Church St., New York 7, N. Y. Regular meetings, third Thursday of each month, except June, July, August, September and December, 29 W. 39th St., New York, N. Y.

NORTHWEST CARMEN'S ASSOCIATION. — E. N. Myers, Minnesota Transfer Ry., 1434 Iowa Ave., St. Paul 4, Minn. Regular meetings, first Monday of each month, except June, July and August, Midway Club, 1931 University Ave., St. Paul, Minn.

PACIFIC RAILWAY CLUB. — William S. Wollner, P. O. Box 458, San Rafael, Cal. Regular meetings, second Thursday of each alternate month, at Palace Hotel, San Francisco, Cal., and Hotel Biltmore, Los Angeles, Calif.

RAILWAY BUSINESS ASSOCIATION.—P. H. Middleton, First National Bank Bldg., Chicago 3, Ill.

RAILWAY CLUB OF PITTSBURGH.—J. D. Conway, 308 Keenan Bldg., Pittsburgh, Pa. Regular meetings, fourth Thursday of each month, except June, July and August, Fort Pitt Hotel, Pittsburgh, Pa.

RAILWAY ELECTRIC SUPPLY MANUFACTURERS' ASSOCIATION.—J. McC. Price, Allen-Bradley Company, 624 W. Adams St., Chicago 6, Ill. Next meeting, October 22-24, 1946, Chicago, Ill.

RAILWAY FUEL AND TRAVELING ENGINEERS' ASSOCIATION.—T. Duff Smith, Room 811, Utilities Bldg., 327 S. La Salle St., Chicago 4, Ill. Annual meeting, September 4-6, 1946, Hotel Sherman, Chicago, Ill.

RAILWAY SUPPLY MANUFACTURERS' ASSOCIATION.—J. D. Conway, 308 Keenan Bldg., Pittsburgh, Pa.

RAILWAY TELEGRAPH AND TELEPHONE APPLIANCE ASSOCIATION.—G. A. Nelson, Waterbury, Battery Company, 30 Church St., New York 7, N. Y. Meets with Communications Section, of A. A. R.

RAILWAY TIE ASSOCIATION.—Roy M. Edmonds, 610 Shell Bldg., St. Louis 3, Mo. Annual meeting, May 28-29, 1946, Netherland Plaza Hotel, Cincinnati, O.

ROADMASTERS' AND MAINTENANCE OF WAY ASSOCIATION.—Miss Elsie LaChance, Room 901, 431 S. Dearborn St., Chicago 5, Ill. Annual meeting, September 17-19, 1946, Hotel Stevens, Chicago, Ill.

SIGNAL APPLIANCE ASSOCIATION.—G. A. Nelson, Waterbury Battery Company, 30 Church St., New York 7, N. Y. Meets with A. A. R. Signal Section.

SOUTHERN AND SOUTHWESTERN RAILWAY CLUB.—A. T. Miller, 4 Hunter St., S. E. Atlanta, Ga. Regular meetings, third Thursday in January, March, May, July, September and November, Ansley Hotel, Atlanta, Ga.

SOUTHERN ASSOCIATION OF CAR SERVICE OFFICERS.—D. W. Brantley, C. of Ga., Savannah, Ga.

TORONTO RAILWAY CLUB.—D. M. George, P. O. Box 8, Terminal "A," Toronto 2, Ont. Regular meetings, fourth Monday of each month, except June, July and August, Royal York Hotel, Toronto, Ont.

TRACK SUPPLY ASSOCIATION.—Lewis Thomas, Q. and C. Company, 59 E. Van Buren St., Chicago 5, Ill. Exhibit in connection with Roadmasters' and Maintenance of Way Association Convention, September 16-19, 1946, Hotel Stevens, Chicago, Ill.

UNITED ASSOCIATIONS OF RAILROAD VETERANS.—Roy E. Collins, 225 Bidwell Ave., Westerleigh, Staten Island 2, N. Y. Annual meeting, October 12-13, 1946, Baltimore, Md.

WESTERN RAILWAY CLUB.—E. E. Thulin, Suite 339, Hotel Sherman, Chicago, Ill. Regular meetings, third Monday of each month, except January, June, July, August and September, Hotel Sherman, Chicago, Ill.

With the Government Agencies

Anti-Trust Lawyers Appeal Pullman Sale

Ask Supreme Court to upset order approving purchase by group of railroads

The Department of Justice has filed an appeal to the Supreme Court of the United States from the January 4 order of the special 3-judge court at Philadelphia, Pa., approving sale of the Pullman Company to a group of railroads "generating on their lines approximately 98 per cent of the sleeping car business in the United States," Attorney General Tom C. Clark announced March 4.

As reported in *Railway Age* of January 12, page 155, the special court found that Pullman, Inc., the holding company controlling the Pullman Company and the Pullman-Standard Car Manufacturing Company, in accepting the railroads' offer to buy, had complied with the terms of the court's order requiring it to dispose either of the manufacturing or of the operating branch of the business in order to bring to an end conditions which it considered incompatible with the "monopoly" restrictions of the anti-trust laws. Three other offers to purchase the Pullman Company also were before the court, those of the Standard Steel Spring Company, of Glore, Forgan & Company for a group of investment bankers, and of Otis & Company and Robert R. Young, chairman of the board of the Chesapeake & Ohio.

The court order requiring separation of the ownership of the Pullman operating and manufacturing businesses came as a result of a suit filed by the Department of Justice in 1940, alleging that various practices attributed to Pullman amounted to conspiracy to monopolize the manufacture, operation and servicing of sleeping cars, the results of which, among others, were said to be financial arrangements unprofitable to the railroads and arbitrary imposition of obsolete equipment on roads seeking superior equipment. The relief sought included the divorcement of the operation and manufacture of sleeping cars, abrogation of the exclusive contracts for furnishing and servicing sleeping cars, and the requirement that Pullman operate and service any sleeping cars owned by the railroads.

The decision of Pullman, Inc., to accept the offer of what the Attorney General calls a "combination of railroads" to purchase the operating company did not meet the requirements of the divorcement order, he said, for these reasons, in the opinion of the Department of Justice:

1. Sale to a "combination of railroads substitutes a rail-owned monopoly for the monopoly struck down";

2. Sale to a "combination of railroads creates a buyer's monopoly of sleeping cars which will not create competition either in the manufacture or servicing of sleeping cars";

3. The court, in approving the sale to the railroads, "failed to consider whether such actions would most effectively dissipate the effects of the past monopoly"; and

4. The rail plan will result in "five railroads" controlling the "common rail-owned company, and hence the smaller railroads will be subject to unreasonable discriminations in the furnishing and servicing of sleeping cars."

The Attorney General statement went on to say that the Department of Justice had "never opposed" ownership and operation by each individual railroad of the sleeping car business on its own lines, and that each road had such a right under the court's decree. What it did oppose, he said, was ownership and operation of the Pullman Company by a "combination of railroads," and it was on that basis that the appeal was taken to the Supreme Court.

Upon the Attorney General's announcement that the appeal was being taken to the Supreme Court, the special 3-judge court extended indefinitely its order permitting the Pullman Company to operate as at present, pending final determination of the case. Before this extension was granted, the court's order had required the railroad group to assume control by March 31. It was not expected that the Supreme Court would be in a position to hear the case until after its summer recess.

In Chicago F. G. Gurley, president of the Atchison, Topeka & Santa Fe and chairman of the railroad buying group, said that the Department of Justice's appeal "comes as a great shock and surprise."

"The shock and surprise," Mr. Gurley continued, "is that the objective sought by the Department of Justice would injure the railroads and restrict and handicap them in their efforts to provide increasingly attractive sleeping car service under a system where each railroad functioned competitively with the freedom of action which should be allowed in a competitive venture. The Department of Justice seems to have the sleeping car business of the country operated by a monopoly whose announced purpose is to have complete charge of the design and construction of the sleeping cars used throughout the United States.

"I recall that the Department of Justice had not taken any appeal from the final decree of the court entered May 8, 1944, by which Pullman, Inc., was given the election to dispose of all its interest in the sleeping car business and properties used in connection therewith by the Pullman Company, or of all its interest in the manufacturing business and the properties used in connection therewith by Pullman Standard Car Manufacturing Company; that by failing to take an appeal it had acquiesced in that order.

(*Continued on page 525*)

Washington Acts in Grain Car Shortage

O.D.T. and I.C.C. orders set up priority basis for use of box cars

A program which he said should "break the present box car shortage inside of 30 days" has been outlined by Director J. Monroe Johnson, of the Office of Defense Transportation, in a letter to J. J. Pelley, president of the Association of American Railroads, and J. M. Hood, president of the American Short Line Railroad Association.

After calling attention to the extreme difficulties being experienced in meeting demands for cars of certain types, and particularly box cars suitable for grain loading, Col. Johnson cited efforts made to obtain more expeditious movement of cars on the part of shippers, and said that "efforts in that direction will be intensified." Nevertheless, he went on, "whatever can *now* be done to speed the turnaround time of cars for the most part is a problem for the railroads themselves."

Nine-Point Program—Asking the presidents of the two associations to communicate the substance of his letter to the executives of member railroads, the O. D. T. director suggested that the carriers should at once adopt a 9-point program designed to increase the efficiency of cars and obtain a faster movement. This he set forth as follows:

1. More promptly move cars made empty at industrial sidings.

2. More efficiently check railroad yards for cars on hand and establish adequate records of cars in yards and terminals.

3. More carefully inspect cars for loading before they are placed to determine whether or not they are suitable for loading of the commodity to be shipped.

4. Increase the use of embargoes and issue them promptly when cars are detained by shippers.

5. Each railroad should immediately review its own operations, particularly those of its yards and terminals and begin a program which will insure that no car delay is chargeable to it. I think that each operating division of every railroad in the country should appoint one or more transportation inspectors or men familiar with car delay and operating matters representing the superintendent directly to search out and put into proper channels any cars which are being delayed for any reason, including those which are under repair.

6. Repair forces should be increased, if necessary.

7. Yard forces should be increased, if that is the answer to better service.

(*Continued on page 524*)

Show Cause Order Calls For Signals

I.C.C. tells Cotton Belt more block system mileage is required

As a result of a head-on collision on the main line of the St. Louis Southwestern near Garland City, Ark., January 6, in territory in which there was no block system in use, the Interstate Commerce Commission has served on that road an order to show cause, on or before May 1, why it should not be required to install an "adequate block signal system" on its line from Lewisville, Ark., to Texarkana Yard, Texas, which will conform either with the commission's rules and standards for automatic block signal systems or with prescribed regulations for manual block operation.

Garland City is about 22 miles north of Texarkana (by timetable direction) on the line to that point from Pine Bluff, Ark., in territory where trains are operated on the single track by timetable and train orders. The Cotton Belt has recently installed a centralized traffic control system on the 120.37-mile portion of its line from South Pine Bluff to Lewisville, as described in *Railway Age* of January 26, page 232, but it terminates about 8 miles north of Garland City, or 7 miles north of the point of the collision.

As a result of an investigation under the supervision of Commissioner Patterson, the commission found that the accident was caused by an inferior train occupying the main track on the time of an opposing superior train. These trains were, respectively, Second No. 24, a northbound second-class freight, made up of an engine, 20 cars and caboose, and southbound No. 5, the "Morning Star," a Memphis-Dallas first-class passenger train consisting of a locomotive, 2 baggage cars, 3 coaches, a dining car and a sleeping car. The maximum authorized speeds for these trains were, respertively, 50 and 60 m.p.h. The line in the vicinity of the accident is tangent for southbond trains, while from the south there is a 4 deg. 5 min. curve to the left, 1,435 ft. in length, which ends 145 ft. south of the point of the accident.

Under the rules, Second 24 was required to clear the time of the opposing superior train, or to provide flag protection, and no train order had been issued restricting the authority of No. 5 to proceed with respect to Second 24. As No. 5 was due to leave Spirit Lake, the next station north of Garland City, at 4:31 p.m., and to leave Garland City at 4:38 p.m., the freight was required by the roles to be in the clear at Spirit Lake by 4:26, or at Garden City by 4:33. However, it passed Garden City at 4:31, which was 5 min. later than the time it was required to be in the clear at Spirit Lake, and proceeded toward that point at about 30 m.p.h. The members of the freight crew understood the rules, but they stated that they "overlooked" the schedule of No. 5, and so did not realize their train was proceeding without authority.

The speed of No. 5 was about 50 m.p.h. when the engineer saw the engine of the opposing freight a few hundred feet ahead. He applied the brakes in emergency, and the speed was reduced to about 25 m.p.h. when the collision occurred. When the fireman of Second 24 discovered the approach of the southbound train, it was about 800 ft. distant. He warned the engineer, who applied the brakes in emergency, reducing the speed of the freight to about 10 m.p.h. at the point of collision. Both locomotives were derailed and damaged, as were the first two cars of No. 5 and the first three cars of the freight. There were no fatalities, but 13 passengers, one person carried under contract, and six employees were injured.

Noting that the installation of c.t.c ending at Lewisville had followed its recommendation that an "adequate" signal system be provided on the line involved, following a collision in 1942, the commission's report remarked that "this installation complied in part with the recommendation contained in the former report. The accident here under investigation might have been prevented if an adequate block system had been in use in the territory involved, since these opposing trains would not have been permitted to occupy the same block simultaneously."

Ask I. C. C. to Reopen Southern Grain Rate Case

Southern railroads have asked the Interstate Commerce Commission for leave to file a petition for reconsideration by it of its report and order in No. 17000, Part 7-A, I. S. No. 4208, and related proceedings, requiring certain adjustments in proportional and combination rates on grain and grain products to and within the South. The prescribed modifications were reported in *Railway Age* of April 14, 1945, page 671. Unless other action is taken by the commission, the southern carriers are required to make the modified rates effective May 1 on 30 days' notice, earlier effective dates having been postponed.

The railroads have asked for reconsideration of this decision because of the sharp decline in their gross and net revenues since the end of the war, evidence of major changes in the conditions affecting their situation since the grain rate adjustment was ordered. Inasmuch as they see no prospect of large profits in the immediate future, these carriers told the commission that a "reduction should not be required on an important part of the tonnage of grain and grain products handled by the southern lines."

More Money for N. M. B.

President Truman has submitted to Congress a supplemental budget estimate requesting appropriation of an additional $37,500 for the National Mediation Board for the current fiscal year ending June 30, 1946. The accompanying statement by the director of the Bureau of the Budget explained that the money was needed for arbitration, emergency, and emergency panel boards, a greater number of such boards having been created this year than had been anticipated.

I.C.C.'s Appraisal of Per Diem Charges

Bureau study analyzes A.A.R. rate base and concludes it is too high

As a result of a study of various methods and theories for the calculation of per diem costs of freight car ownership, the Bureau of Transport Economics and Statistics of the Interstate Commerce Commission has made public estimates for the year 1943, showing per diem costs that are "not only much lower than the costs as calculated by the Association of American Railroads, but are also appreciably less than the rate of $1.15 per day which went into effect as the per diem rate" February 1, 1945. Its conclusion on the basis of these calculations is that the $1.15 rate is not only "too high" for the year 1943, but "very much too high," if interest costs are figured at the current rate on equipment obligations.

The analysis has been issued "as information," without having been considered or adopted by the commission, as Statement No. 465, a document of 53 mimeographed pages. It is the result of a study undertaken by the bureau as a "preliminary inquiry" at the time the increased per diem rate became effective, and later extended into "an exploration of some of the principles involved in the calculation of equitable per diem costs and rates."

Its release follows the commission's decision (noted in *Railway Age* of February 16, page 378) to deny a petition of the American Short Line Railroad Association for an investigation on the commission's own motion of the reasonableness of the charges for the use of freight cars, that denial being without prejudice to the filing of a formal complaint. The analysis was prepared by W. H. S. Stevens, director of the bureau, A. V. Vallandingham, its chief accountant, and other members of its staff.

The major portion of the statement is devoted to an examination of the methods used by the A. A. R. to establish the $1.15 per diem rate in the light of the principles and theories employed by the bureau in arriving at its estimates. In general, it deals in turn with the five principal cost elements entering into the calculation of the expense of owning freight cars, namely, repairs, taxes, depreciation, miscellaneous incidental items, and interest, the latter factor being subject to a more detailed investigation than the others.

The study explains that the A. A. R. figure was established on the basis of calculations reviewed by a committee consisting of R. L. Williams, president of the Chicago & North Western, H. S. Palmer, trustee of the New York, New Haven & Hartford, and W. J. Jenks, president of the Norfolk & Western, each of whom selected two members of his road's staff to serve on a working committee assigned the task of developing a report showing how car ownership costs were calculated and what results were obtained on certain bases of computation. This assignment resulted in a majority and a minority report, the latter by the

New Haven representatives, both of which were submitted to the review committee in March, 1945.

The cost data so summarized by the A. A. R., based on 1943 figures, were stated in terms of active freight car days, rather than actual car ownership, the difference being that the former basis makes allowance for the time cars are out of service, either for repairs or as a result of an equipment surplus. Active car days were calculated by three different formulas, however. One method required reducing the average number of cars owned by the average of all bad order and all surplus cars. A second method reduced ownership by the average of bad order cars on home road plus all surplus cars. The third formula applied the home bad order and all surplus deduction to total ownership, but arrived at an average for 5 years, which ratio was applied to the 1943 ownership total. And finally, a composite method was developed, using the second method in determining some of the cost factors and the third for others, this bringing the result approved by a majority of the A. A. R. working committee. The cost of freight car ownership in cents per active freight car day, for 1943, was shown in the A. A. R. report for each of the three methods named, as follows: first, 124.226; second, 121.857; and third, 131.657. The composite method approved by the committee majority produced a cost figure of 125.406 cents per active car day.

The bureau's study analyzes these methods of computation in some detail, and also a variation suggested by the minority of the A. A. R. committee, which would reduce car ownership by deducting the average number of home bad order cars and home surplus cars. It is not possible to apply this formula with the data presently available, as reports are not compiled of home and foreign surplus cars separately. Discussing this phase of the investigation, the bureau pointed out that car activity fluctuates each year with traffic volume and density, being further affected by a generally recognized understatement of surplus, the extent of which is unknown and probably cannot be accurately determined. On the whole, however, the bureau prefers the A. A. R. committee minority's method of computing car days by treating as active cars all foreign surplus cars as well as foreign bad order cars, since both are subject to the per diem charge, iimplying that the present lack of adequate data is not a sufficient ground for rejecting the formula.

Car repairs are by far the most important single factor in the costs of car ownership, the bureau points out, noting that in the summary of costs prepared by the A. A. R. repairs ranged from 54.8 to 59.2 cents per day out of total costs ranging from $1.21 to $1.32. The bureau's estimate of repair costs for the year 1943 alone doesnot differ sharply from the A. A. R. composite formula figure, 54.8 cents, but the study points out that the frequency and abruptness of fluctuations in repair costs raise a question as to the propriety of using a figure for a single year for this determination. On a 5-year average, 1939-1943, the bureau develops a repair cost figure per active car day 9.2 cents lower than for 1943 alone, and it suggests that "the use of a three or five-year average basis would presumably reduce the abruptness of the swings" in per diem repair costs.

In computing the cost of taxes for 1943, the bureau continued, the A. A. R. majority deducted from total railway tax accruals federal payroll taxes, income taxes and capital stock taxes. "The remainder was then divided by the amount of the investment in railway property used in the transportation service plus the investment in miscellaneous physical property and plus materials and supplies to derive the percentage of taxes other than income and payroll taxes applicable to this investment. This percentage was then applied to the undepreciated ledger value of the freight-train cars to obtain the amount of the property taxes applicable to such cars.

"The result of this method of computation is to attach to freight-train car ownership a pro rata of taxes levied in various states on gross earnings, net income, and capital stock, together with sales and use and miscellaneous taxes. In determining the amount of taxes that are properly to be attributable to freight-train car ownership, practically all forms of state taxes except the ad valorem property tax and the gross earnings tax should be excluded."

Turning to the calculation of depreciation employed in arriving at the A. A. R. per diem cost figure, the bureau remarked that the "estimated normal depreciation of freight-train cars at the 3 per cent rate used by the A. A. R. is somewhat too low based on a rate derived by relating the depreciation base at the beginning and end of the year to the total charges for depreciation during the year." The bureau has recalculated depreciation charges by developing a depreciation rate (the result of dividing the average of the depreciation base for the beginning and end of the year into the depreciation charges made in that year) which has been applied to the average of the undepreciated ledger value of the cars at the beginning and end of the year. This method of calculation results in a reduction of 1.963 cents per active day from the A. A. R. figure for depreciation (20.972 cents).

As a result of its analysis of the formulas used by the A. A. R. to arrive at various miscellaneous expenses entering into the cost of car ownership, the bureau has developed a cost per active car day of 13.041 cents, or 1.759 cents less than the A. A. R. figure.

The cost of interest factor is discussed in the bureau's statement at greater length than any other entering into the cost of car ownership, partly because of its importance (second only to repair costs) but particularly because "it is subject to far greater variability by different methods of calculation than is any other one of the cost elements." Calculation of interest costs in setting per diem charges obviously depends on two considerations, the investment base used and the rate applied to that base, the statement went on, observing that the A. A. R.'s procedure was to take the depreciated cost of reproduction as a base and 6 per cent as the interest rate thereon.

The A. A. R.'s use of the depreciated reproduction cost base, according to the statement, is bottomed on the theory that the interest base for per diem purposes should be analogous to that for rate purposes, and further that the car's value to its owner is what it would cost to reproduce, rather than its depreciated original cost. Against this interest base, the bureau has examined other bases, the investment, the undepreciated ledger value, and the depreciated ledger value.

The statement indicates a preference on the part of the bureau for the original cost basis for determining interest for per diem calculations. "To average a cost of reproduction basis for a series of years is more or less contradictory of the entire theory of reproduction cost which changes with every price change," it pointed out. "This base is not, in consequence, especially well adapted to the calculation of interest costs, except on an annual single year basis with relatively frequent changes in the per diem charge. Moreover, since the cost of reproduction base may be expected to vary directly with repair costs, the use of this base tends to accentuate the changes of total and per diem costs from year to year. . . . The use of the depreciated original cost of the equipment will eliminate fluctuations in interest cost wholly attributable to the widely fluctuating base represented by reproduction cost. . . .

"Considering the organization of the transportation business and the necessity of interline movements which give rise to per diem charges, it is scarcely equitable to car owners to adjust the interest downward because the prices of labor and materials have declined nor to car users to adjust it upward when such prices have increased. Neither of such price changes alters or affects in any way the investment already sunk in such equipment, the interest on which is included in the per diem cost."

Compared to the "arbitrary" interest rate used by the A. A. R. (related to the "fair rate of return" on investment), the bureau considered in some detail other formulas for calculating interest, the differences arising in part from differences of opinion as to whether anything should be included in per diem charges above the current rate on equipment obligations. "Some roads, particularly short lines," the statement explained, "either own no cars at all or own a number insufficient to their transportation requirements. An interest rate sufficiently higher than the current rate on equipment obligations, it is claimed, will persuade such roads not now providing their full quota of cars to purchase such cars and the burden of carrying the car investment will be more evenly distributed, or in the alternative, if such roads do not assume the obligation to purchase their quota of cars, other roads will be induced to do so because of the possibility of earning a return in excess of current rates of interest on equipment obligations.

"On this theory, if the additional allowance is not made, no sufficient inducement to continued investment in cars will be afforded. Roads financially able to purchase cars will cease to buy, thus gradually withdrawing their investment, and the car supply will become inadequate to the traffic requirements of the roads. And in the longer as well as the broader view, the result will be a transportation system by rail inadequate to the needs of commerce and the national defense."

But this theory is vigorously attacked, the study continued, by the debit roads,

which argue that the element of profit should not enter into the determination of a per diem rate. "It is true that some roads provide a relatively larger or smaller number of cars in proportion to their traffic than do others and in widely varying degrees. Some small roads, perhaps, provide no cars at all. But this is as much and perhaps more a characteristic of the existing organization of the rail transportation system in separate companies as of either the willingness or the financial ability to buy cars. Short line roads may originate a traffic volume all out of proportion to the cars owned. In some of these cases the originations may be so heavy that it would be financially impossible for such a road with its short hauls and resulting division of the revenues to own more than a fraction of the necessary equipment. But nonetheless, the owning road obtains the haul of that traffic over its own lines, the revenues from its division of the rate, and in addition the off-line per diem. . . .

"If the investment in cars is conditioned by transportation requirements rather than by the possibilities of per diem earnings, cars will continue to be purchased so long as the transportation business continues to be remunerative. And this will, to a large extent, be true regardless of whether or not the interest cost included in the per diem rate is sufficient to afford a normal or fair return upon the investment in cars."

The result of the bureau's appraisal of these contradictory ideas was its conclusion that "it seems reasonably clear that no fixed rate basis for interest can be regarded as equitable or fair to both owners and users of cars. It seems equally apparent that the owning roads are not entitled to claim as interest in any year more than the average current effective rate on that part of their average investment in cars (depreciated ledger value or original cost) which is represented by the outstanding equipment obligations on such cars on which they paid interest in the same year. As for the balance of their investment in cars, it would appear that the maximum rate that can either logically or equitably be claimed would be the equivalent of whatever rate of return was earned on all property in the particular year or period up to the rate deemed to represent a fair rate of return (taken in 1943 as 6 per cent). . . . The use of the effective rate of interest on equipment obligations against all the car investment may well be regarded as more equitable as between car users and car owners than the combination method which represents the maximum basis for interest cost which should be considered."

Other elements in the development of a per diem rate considered in the study were the frequency of its revision and the desirability of using the average of a 3-year or 5-year period, rather than any one year, as a basis for determining costs. As to frequency, the bureau concluded that "in principle per diem costs should be calculated annually on the basis of a fixed and predetermined formula (though not necessarily that proposed by the A.A.R.) which would be adhered to regardless of declining or rising prices, interest rates, taxes, or other elements of cost." To avoid objectionably abrupt variations in the per diem rate, despite the annual calculation of costs, it was pointed out, a "moving average" of several years might appropriately be used as a basis for computing costs.

Using the principles set forth in the analysis of methods and formulas, the bureau estimated that for 1943 an "equitable per diem rate" would be $1.00595 (as compared to the A.A.R. composite cost figure, $1.25406 and the present $1.15 charge). On a 3-year average basis (1941-1943) the calculated rate would be. for 1943, $0.96293; on a 5-year average basis (1939-1943), $0.91295. "The maximum that can logically be claimed for the car owner for the year 1943 would be $1.09257, using the effective rate on equipment obligations" for that portion of the investment represented by equipment obligations and 6 per cent for the balance.

Gass Named Director of O. D. T. Rail Transport Dept.

The Office of Defense Transportation has announced the appointment of Arthur H. Gass to succeed Earle E. McCarty as director of its Railway Transport Department, effective March 1.

Mr. Gass is on loan from the Association of American Railroads. After serving in an engineer regiment in World War I, he joined the Car Service Division of the A.A.R. in 1919. He served as district manager of the division in Detroit, St. Louis, and Boston. He became assistant to the chairman of the Car Service Division in May, 1940. From July 1 of that year to June 9, 1945, he was manager of military transportation for the A.A.R. He became vice-chairman of the Car Service Division in July, 1945.

Mr. McCarty came to the O.D.T. on loan from the Atchison, Topeka & Santa Fe May 1, 1945, and returns to his position as general manager coast lines, with headquarters at Los Angeles, Cal.

I. C. C. Service Orders

In addition to a number of new and modified service orders issued to provide close control over the use of box cars during the present critical shortage of such equipment under the pressure of the government export grain movement program, which are reported in another column in this issue, the Interstate Commerce Commission has recently issued or modified other service orders as follows:

Fourth Revised Service Order No. 104, effective March 6 through August 21, superseding the third revised form of that order, reinstates the privilege of substituting up to three refrigerator cars for each box car ordered to load carload freight for a described Pacific Coast area, consisting in general of the states of California, Arizona, Utah, Nevada and southern Idaho. Such substitutions may be made only where shipments do not originate at points east or north of the Illinois-Indiana boundary and Chicago switching district, the Ohio river, the C. & O. line from Cincinnati, Ohio, to Kenova, W. Va., the N. & W. thence to Roanoke, Va., the Virginian thence to Suffolk, Va., and the N. & W. again to Norfolk.

Amendment No. 6 to Service Order No. 394, effective March 2, provides that Sundays and holidays may be excluded in the computation of maximum free time periods allowed on refrigerator cars under the terms of that order. The life of two service orders, Nos. 93 and 107, has been extended to December 31 by appropriate amendments. The former deals with freight rates applicable on shipments in so-called giant-type refrigerator cars, while the latter provides controls on the movement of freight cars into Mexico. The expiration date of Service Order No. 381, dealing with the movement of bauxite ore concentrates from Mobile, Ala., has been postponed to June 30 by Amendment No. 1 thereto.

Service Order No. 461, effective March 1 through June 30, unless otherwise directed, requires the receiver of the Salt Lake & Utah to permit use of its tracks and terminals in Salt Lake City, Utah, and other specified points on its line jointly by the Union Pacific, Denver & Rio Grande Western, and Bamberger Railroad, inasmuch as shippers on the receiver's line have been left without rail service as a result of a court order suspending its operations after March 1 under an embargo.

The Interstate Commerce Commission has extended to May 15 the expiration date of its Service Order No. 449, requiring permits for loading grain at Omaha, Neb., and Council Bluffs, Iowa, and to August 21 the expiration date of Service Order No. 104, authorizing substitution of westbound refrigerator cars for box cars for loading in the direction of empty movement, although the latter order is presently under suspension in view of the pressing demand for refrigerator cars.

New Technical Advisory Board To Aid Transportation Corps

Fifty-two of the nation's outstanding industrial leaders, including many from the railway and railway supply industries, will comprise a Technical Advisory Board to assist the Army Transportation Corps in a research program which will cover all fields of transportation except air, it was announced by the War Department on March 3. Although the board is never expected to meet in its entirety, individual members will consult with Major General Edmond H. Leavey, chief of transportation, to advise and counsel the corps' research and development division.

General Leavey pointed out that the war-time experience gained as the result of transporting men and equipment here and abroad has shown the need for the development of transportation equipment types which have no commercial prototypes. He urged that new equipment be designed, pilot models produced and studies made of actual operations. Many of the industrial leaders attended an exhibition of captured German transportation equipment which was conducted at Fort Monroe, Va., from March 6 to 8, inclusive, as reported in *Railway Age* of February 9, page 335.

Among those named to the board are John E. Dixon, president, Lima Locomotive Works; Duncan W. Fraser, president, American Locomotive Company; V. R. Hawthorne, executive vice chairman, Operations and Maintenance Department, Mechanical Division, Association of American Railroads; Edwin Hodge, Jr., chairman, Greenville Steel Car Company; J. M. Hood,

president, American Short Line Railroad Association; Ralph Kelly, president, Baldwin Locomotive Works; C. A. Liddle, president, Pullman-Standard Car Manufacturing Company; J. J. Pelley, president, A.A.R.; Ted V. Rodgers, president, American Trucking Associations; Lester N. Selig, vice-chairman of the board of General American Transportation Corporation; and Frederick A. Stevenson, president, American Car & Foundry Company.

Washington Acts in Grain Car Shortage

(Continued from page 520)

8. Authority should be given by executives to subordinates to do whatever is necessary to begin, promote and complete such a program.

9. Operating executives of each railroad should get the responsible subordinates of the transportation and operating section together and plan a coordinated program to give effect to the recommendations herein cited.

Colonel Johnson's letter also included the observation that "the railroads enjoy a splendid reputation at the end of our greatest war. To keep this reputation, they must give the service to which the shippers of the country are entitled. If methods of compulsion on my part are necessary to see that this is done, I will attempt them. That should not be necessary."

I. C. C. Service Orders—To make more box cars available for grain loading in the West and thereby speed its movement to the ports for transportation to countries overseas where the United States has undertaken to supplement food shortages, the O. D. T., the Interstate Commerce Commission and the A. A. R. have cooperated in taking additional steps to control the use and movement of box cars more rigidly. The terms of I. C. C. Service Order No. 439, under which W. C. Kendall, chairman of the A. A. R. Car Service Division, was named agent of the commission with authority to direct railroads to supply empty box cars for grain loading in the Northwest (reported in *Railway Age* of February 2, page 295), have been broadened in a revised version of that order, effective March 5 through June 5, unless otherwise directed, so that Mr. Kendall is authorized to "regulate the use, control, supply, movement, distribution, exchange and interchange" of empty box cars throughout the United States, and to "order any common carrier to (1) accept, (2) deliver, (3) transport, (4) distribute, or (5) accept, deliver, transport, and distribute cars for the purpose of providing cars at points in the United States where necessary."

Before this enlargement of his authority was made effective, Mr. Kendall had instructed western railroads not to deliver serviceable empty plain or automobile box cars of U. S. ownership in home route to eastern, Allegheny, Pocahontas or southern connections, except that ventilated box cars and automobile box cars being returned to home roads under instructions applying to auto loading equipment installations were not subject to these instructions. The order was effective until further notice after March 1, and applied also to terminal and switching roads at junction points between the Western district and others. Where loading is not immediately available for cars affected, western roads were instructed to hold for loading or move to territory where loading may be obtained.

Other measures taken by the I. C .C. to improve the grain car supply situation resulted in Service Orders No. 454 (outlined in *Railway Age* of February 23, page 419), establishing priorities for the movement of grain and other foodstuffs to the ports, and No. 458, giving priority in filling orders for empty cars to orders placed by country elevators for grain movements to terminal markets. The latter order is effective March 5 through June 5, unless otherwise directed, and applies to all country elevators in the United States except those in a portion of the Northwest (where the provisions of Service Order No. 450 apply) and those in the territory south and east of Buffalo, N. Y., Pittsburgh, Pa., Wheeling, W. Va., and Charleston, the line of the C. & O. thence to Cincinnati, Ohio, and the Ohio and Mississippi rivers from that point to the Gulf of Mexico.

The commission has named Fred S. Keiser as its agent for the administration of this order, with headquarters at Chicago. The preference therein provided applies to loading of wheat, corn, oats, barley, flaxseed, soyabeans, rice, sorghums and grain screenings. The terminal markets to which such shipments must be consigned to qualify for car supply preference are listed in the order. It prohibits the reconsignment, diversion or rebilling of grain shipped pursuant thereto, except on permit issued by the I. C. C. agent, and requires that precedence shall be given orders for cars under the provisions of Service Order No. 454.

The expiration date of Service Order No. 450, referred to above, has been postponed to June 30 by Amendment No. 1 thereto. On the other hand, the commission has set aside its Service Order No. 371, which prohibited the use of flour and sugar cars for ammunition loading at Pacific Coast ports, and No. 449, which required permits for the loading of grain at Omaha, Neb., and Council Bluffs, Iowa. The vacating orders were effective March 2 and March 8, respectively. The expiration date of two other service orders affecting the use of box cars has been fixed as December 31 by appropriate amendments; these are No. 434, limiting free time on box cars held for unloading at or short of ports, and Second Revised No. 244, affecting the distribution of grain cars for loading at country loading points.

Emergency Conditions Seen—Still another commission order designed to afford some relief in the box car shortage is No. 462, effective March 21 through July 21 unless otherwise directed. In view of the practice of holding at ports cars loaded with carbon black in bulk for export while that commodity is packaged for handling at shipside, the order prohibits supplying box cars for loading with carbon black in bulk for export, or the reconversion, diversion or movement of cars so loaded for such destinations.

These and other measures, including the recommendations made by Colonel Johnson to the railroads, are the result of a box car supply "emergency requiring immediate action," it was indicated, and the O. D. T. director pointed out that besides the relief shipments there are many commodities whose transportation at the present time is "vital to the workings of our national economy." Under the modified version of Service Order No. 439, he added, Mr. Kendall "has the responsibility for seeing that cars are made available for such traffic."

The O. D. T. on March 6 reported that results of measures to expedite the export grain movement to Pacific Coast ports were being shown in late figures for export grain receipts. In January the five roads terminating at Portland, Ore., and Seattle, Wash., moved to the ports 4,651 cars of bulk grain for export, while in the shorter month of February they moved 6,993 cars. At the rate maintained in February about 11.5 million bushels per month will be moved to these ports, enough to meet the 8 million per month export program and also the needs of millers and processors in that area for the production of flour, feed and other products, the O. D. T. said.

St. Lawrence Seaway Hearings Come to an End

Proponents and opponents of the construction of the St. Lawrence seaway this week were afforded an opportunity to present rebuttal testimony in support of their positions as the hearings of the Senate foreign relations committee on Senate Joint Resolution 104 went into the third week. The effect of this resolution, if passed, would be to sanction joint arrangements between this country and Canada for undertaking the project without entering into a treaty, for which the approval of two-thirds of the Senate would be required.

The principal arguments advanced by interests favoring construction of the seaway were reviewed very briefly in *Railway Age* last week, page 476, as were highlights of the testimony presented by the railroads and other interests opposing the project. The discussions of the proposal from the viewpoint of the opposition continued through March 1.

Among many additional witnesses presenting statements unfavorable to construction of the seaway were E. P. Goodrich, an engineer for the National St. Lawrence Project Conference; Martin H. Miller, spokesman for the Brotherhood of Railroad Trainmen; Cornelius H. Callaghan, executive vice-president of the Maritime Association of the Port of New York; Thomas Kennedy, secretary and treasurer of the United Mine Workers of America; Lachlan Macleay, president of the Mississippi Valley Association; and representatives of many business and civic organizations and state government agencies of Louisiana and Pennsylvania.

Mr. Goodrich told the committee that a conservative estimate placed the cost of constructing the seaway and power project at $660,443,557, of which the share borne by the United States would exceed $450 million. But, he went on to say, these figures do not tell the whole story. "There

must be additional expenditures made by the federal government and by local interests at the various [lake] ports before whatever benefits are claimed from the seaway may be actually derived." Such expenditures he estimated at $17 million for the federal government and $56 million for local interests.

"If this project is approved and constructed, you will not have seen the last of the advocates of the Great Lakes-St. Lawrence waterway development," Mr. Goodrich predicted, explaining that some of the engineering features of the project as now set up convinced him that the ultimate goal of its proponents is a 32-ft. channel depth instead of the 27-ft. depth presently planned.

Further statements in support of the project, some of which challenged observations of witnesses who had appeared in opposition, were presented this week by F. H. LaGuardia, former mayor of New York; Frank Lausche, governor of Ohio; Julius H. Barnes, a former president of the United States Chamber of Commerce, and Oscar L. Chapman, acting secretary of the interior, among others. Mr. LaGuardia and Mr. Barnes did not entirely agree as to the nature of the opposition to the seaway, as the former mayor contended that the electric power "interests" were the principal factor against the project, while Mr. Barnes was disturbed at the determined opposition of the Association of American Railroads. He "doubted" that the A. A. R., in taking this position, was "fully" reflecting the views of a majority of its members.

New Reorganization Legislation Is Under Fire

As the hearings on railroad reorganization processes continued this week before the Senate interstate commerce committee, the provisions of the modified version of S. 1293 (introduced by Chairman Wheeler) were further analyzed by several representatives of rail security holders, whose enthusiasm for the proposed legislation was in general inversely proportional to the degree to which their claims were satisfied in reorganization plans approved by the commission and the courts.

Senator Wheeler had previously remarked somewhat tartly that "they all" wanted the particular road whose securities they held exempted from the bill's provision's, even though they were otherwise approved in principle, and it developed as the hearing neared its end that the committee chairman was giving some thought to relenting in his opposition to the Hobbs bill—already passed by the House—at least to the extent of permitting it to be reported to the Senate. The impression prevailed in the committee that the Hobbs bill would pass the Senate if Senator Wheeler should allow it to reach the floor.

The observations to the committee of Robert R. Young, chairman of the board of Alleghany Corporation, are reported in this issue, on page 507. He was followed at the hearing by Wilson McCarthy, a trustee of the Denver & Rio Grande Western, who argued that the trustees had been very diligent in building up that road's property, so that it could emerge from reorganization in a condition to survive under future trials. The commission and three courts had found the stock of the old company to be without value, he declared, and he opposed legislation that would turn the property back to the holders of the old equities. If injustice had been done junior security holders under the approved reorganiaztion plan, he said, it could be corrected by the commission if the bill were revised to require that body to reconsider the plan, but he reiterated his objection to returning the property to its former owners.

At later sessions of the committee, Malcolm McCartney and Edward W. Bourne discussed the bill from the point of view of holders of certain securities of the Chicago, Rock Island & Pacific; Otis A. Glazebrook, Jr., and Joseph France appeared on behalf of parties to the Seaboard reorganization proceedings; J. H. O'Connell stated the position of a group of holders of New York, Susquehanna & Western bonds; and Henry Behlert presented a statement on behalf of owners of Denver & Rio Grande Western securities. While the junior security holders of roads in reorganization were in general sympathy with attacks on the reorganization processes which had been made in the course of the hearings, they did not express unanimous approval of the modified version of S. 1253, and some at least of the witnesses preferred the Hobbs bill to it.

The committee also heard Y. V. Lott, who argued that no action be taken to disturb the merger of the Gulf, Mobile & Ohio and Alton, now in process; and Cassius M. Clay, who discussed in particular the position of the Baltimore & Ohio along with the provisions of S. 1253, that road having twice accomplished debt adjustments along the lines laid down in the Chandler and McLaughlin acts, now expired, on which the present bill is patterned at least as far as its general objectives are concerned. Fred L. Oliver appeared on behalf of a group of savings banks interested in securities of reorganization roads, rebutting in part some of the comments of Mr. Young.

It was expected that statements of Commissioners Splawn and Mahaffie of the Interstate Commerce Commission would clarify the record with respect to the commission's attitude toward the proposed legislation, particularly the amendments recently proposed to extend its application to roads undergoing reorganization, and their appearance was expected to be followed by an early decision by the committee as to the form of legislation it would recommend to the Senate to provide relief to these holders of junior bonds and equities whom many members consider unfairly treated under the reorganization procedures now effective.

Anti-Trust Lawyers Appeal Pullman Sale

(*Continued from page 520*)

"By the decree of May 8, 1944, which is no longer appealable, the government obtained every objective which it had sought. All proceedings since that time, including the entry of the order of Jan. 4, 1946, merely concerns steps taken to effectuate the complete separation of the Pullman car manufacturing business from the sleeping car business.

"The United States, by securing the separation of the sleeping car business from the manufacturing business, accomplished everything they originally sought because (a) it has insured freedom of competition in car manufacturing, (b) it has freed the railroads from the possible domination of an exclusive servicing organization, (c) it has achieved, for public benefit, the preservation of sleeping car service by the railroads of a pool or reservoir of sleeping cars adequate for their seasonal demands.

"The sale to the railroads would vest control of the sleeping car service in the carriers who are responsible to the public alike for that service and for all other phases of transportation instead of vesting it in a new monopoly that might or might not exercise it in the public interest.

"Subsequently, when the district court entered its order of March 22, 1945, in which it provided that Pullman, Inc., might cause the Pullman Company to offer to treat with the railroads or any other persons for the sale of the sleeping car business and the properties connected therewith owned by the Pullman Company, or for the sale of all the shares of stock owned by Pullman, Inc., in the Pullman Company, the Department of Justice took no appeal from that order but acquiesced in it."

M. P. Train Radio Licensed

The Federal Communications Commission has granted the application of the Missouri Pacific for construction permit and license for 32 new mobile units to operate as train stations in railroad radio service. Operation will be on the frequency 160.41 megacycles, with 100 watts input to final radio stage, employing special emission for FM (telephony).

New Steel Ceiling Prices Affect Railroad Supplies

Increases averaging $5 per ton in steel mill ceiling prices for all basic steel products, including commodities essential to the railroad industry, were announced last week by the Office of Price Administration.

The increases, which are effective immediately, apply to all steel deliveries since February 15, the date on which the stabilization administrator directed the O.P.A. to increase carbon and alloy steel products an average of $5 a ton. The increases represent a boost of 8.2 per cent in the average realized price of all steel, the new average realized price being $65.92 per ton as compared with $60.92 per ton previously.

The O.P.A. also disclosed that additional pricing actions will be taken shortly as may be required for fabricated products such as steel drums, bolts, nuts, screws and rivets, concrete reinforcing bars and associated fabricated products. These additional actions, it was said, will provide industry-wide adjustments in ceiling prices if required by increased costs of the raw steel, and also by any approved wage increases.

The new mill ceiling price increases, which are applicable to sales of both prime and secondary quality products, affecting the following commodities, among others:

Structural shapes and piling, 25 cents per 100 lb.; plates, all types and qualities, 25 cents per 100 lb.; rails, all types and grades except light rails, $5 per net ton; light rails, $9 per net ton; splice bars, 15 cents per 100 lb.; tie plates, all types and grades, 25 cents per 100 lb.; wire fencing, 25 cents per 100 lb.; hot rolled iron and steel sheets, 22½ cents per 100 lb.; cold rolled sheets, 22½ cents per 100 lb.; and track spikes, 40 cents per 100 lb.

Study of Minimum Rates

The Interstate Commerce Commission has made public "A Study of Minimum Reasonable Rates," which Examiner Myron Witters of the Bureau of Formal Cases prepared at the direction of Commissioner Alldredge. The study, which was issued "as information," not having been "considered or approved" by the commission, examines numerous decisions wherein the minimum rate power has been exercised by the commission and undertakes to point up the principles governing the exercise of such power.

Examiner Witters' summary lists the following as the tests which are most frequently applied:

(1) Cost of service (fully allocated costs) and whether rates are "reasonably compensatory."
(2) Comparison with rates on the same commodities in the same general territory and comparisons with rates of other carriers, including carriers engaged in other forms of transportation.
(3) Whether the rate is lower than necessary to meet the competition.
(4) Whether the rates are so low as to destroy competition.
(5) Whether the rates will throw an undue burden on other traffic.
(6) Whether the rates will jeopardize an entire rate structure.
(7) Whether the rates conform to the "national transportation policy" and the rule of ratemaking in section 15a (or comparable provisions in Parts II, III, and IV of the act).
(8) Value of the commodity.
(9) Value of the service.

Pointing out that the law does not contain any standards for the determination of minimum reasonable rates, Examiner Witters goes on to say that in fixing a minimum reasonable rate the commission applies "the same tests or standards as those generally used in fixing a maximum reasonable rate." He noted that this position of the commission was upheld in *Youngstown Co.* v. *United States,* 295 U. S. 476. "the leading case in the United States Supreme Court on the subject of minimum reasonable rates."

Previously the examiner had asserted that "one of the principal objects" of his study was "to point out that the term 'reasonably compensatory' in connection with rates appears only in section 4 of the Interstate Commerce Act, but many of the cases involving the question of whether rates are less than a reasonable minimum seem to turn upon the question of whether such rates are reasonably compensatory." Mr. Witters, therefore, found it pertinent to inquire "whether reasonably compensatory rates under section 1 of the act are synonymous with reasonably compensatory rates under section 4 of the act."

He went on to recall that the term "reasonably compensatory" as used in the fourth section has been "specifically defined" by the commission in *Transcontinental Cases* of 1922, 74 I. C. C. 48, as implying "that a rate properly so described must (1) cover and more than cover the extra or additional expenses incurred in handling the traffic to which it applies; (2) be no lower than necessary to meet existing competition; (3) not be so low as to threaten the extinction of legitimate competition by water carriers; and (4) not impose an undue burden on other traffic or jeopardize the appropriate return on the value of the property generally as contemplated in section 15a of the act. It may be added that rates of this character ought, wherever possible, to bear some relation to the value of the commodity carried and the value of the service rendered in connection therewith."

This definition, as the examiner interpreted it, "does not specifically approve the added traffic or out-of-pocket cost formula, but it does specify that a reasonably compensatory rate must (1) cover and more than cover the extra or additional expenses incurred in handling the traffic to which it applies." On the other hand, he continued, "the added traffic or out-of-pocket formula has not been accepted as a test for determining minimum reasonable rates, but on the contrary has been expressly condemned." Here Mr. Witters cited several cases wherein commission determinations prompted him to make this comment: "It is clear that the term 'reasonably compensatory' when used as a test of a minimum reasonable rate means a rate which covers all costs. It is not necessary to find that a rate is not 'reasonably compensatory' as a basis for a finding that a rate is less than just and reasonable."

Along the same line, the examiner later had this to say: "The commission in recent cases dealing with rates voluntarily proposed by the carriers has required that such rates be high enough to cover all costs, and even where they are high enough to cover all costs the commission has held them to be unreasonably low and prescribed minimum reasonable rates." While Mr. Witters found at least one case in which the commission said that the predominant element to be considered in determining a minimum reasonable rate was whether the rate was "reasonably compensatory," he said that "in numerous other cases," the commission "has found rates unreasonably low even though covering full costs and therefore 'reasonably compensatory.'"

As an example of the latter, he cited *Petroleum Between Washington, Oregon, Idaho, Montana,* 234 I. C. C. 609, where the commission said, "It is apparent that the proposed rates [which the decision struck down] are compensatory, considering all costs." This decision of the commission went to the Supreme Court, where it was sustained.

Mr. Witters supported his summary comments with his more detailed review of the numerous pertinent commission decisions and pronouncements of the courts. Meanwhile, he noted that the commission has used its minimum rate powers "quite extensively" in connection with the regulation of motor carrier rates, "in contrast to the very sparing use of that power in the regulation of railroad rates." He also pointed out that in the more important cases in the motor carrier field the minimum rates were prescribed at the "urgent request" of the "great majority" of the common carrier truckers involved.

Equipment and Supplies

The Atlantic Coast Line will soon take delivery of three new 250-ton self-propelled steam wrecking cranes, which are being manufactured by the Industrial Brownhoist Corporation, Bay City, Mich. These cranes will be assigned to the terminals at Rocky Mount, N. C., Waycross, Ga., and Florence, S. C.

PASSENGER CARS

The Union Pacific has ordered from the American Car & Foundry Co. 65 aluminum superstructure passenger cars at a total cost of $6,000,000. The new equipment will be of the latest and most modern design and will include 8 lunch counter-diners, equipped with soda fountains and dining tables for 40 persons; 9 club cars to be equipped with showers, barber shops and lounge seats; 6 dormitory-club cars with bar and lounge seats, and 3 cafe-lounge cars containing 24 seats for dining, 24 lounge seats and an eight-seat card section. Other cars included in the order are 13 48-passenger diners, 11 baggage cars, 3 60-ft. mail cars, 3 30-ft. mail cars, and 9 baggage dormitory cars.

SIGNALING

The Chicago, Burlington & Quincy has ordered materials from the General Railway Signal Company to adapt the centralized traffic control machine at Herrington Junction, Wis., to changes in the layout of the territory controlled. The altered machine will control and indicate 2 crossovers, a single switch, and 15 signals. Type SA signals, Type K relays, and Model 5D dual-control switch machines are included in this order.

The Chicago, Burlington & Quincy has ordered equipment from the General Railway Signal Company for the installation of Type-K, 2-wire centralized traffic control on 59 miles of single track between Flag Center, Ill., and Savanna. To control this new section, 5 control panels and a master panel will be added to the present control machine at Aurora, Ill., 107 miles from Savanna. The new panels will have 42 track indication lights and 30 levers to control 14 switch machines and 60 signals. Minor alterations will also be made one some of the existing panels, and the automatic train recorder will be replaced by an improved model which employs non-sensitized paper and self-inking pens. Model 9A electric switch locks, Model 5D dual-control switch machines, welded steel housings, Type SA signals, and Type K relays will be used in this installation.

The Atlantic Coast Line has ordered signal material from the Union Switch & Signal Co., to enlarge and extend the present installation of centralized traffic control between Dunlop, Va., and Collier to include the interlocking plants at these two locations and change the control point location from North Petersburg to BX Tower. This work embraces a new section

to be added to the present C. T. C. machine which will be moved to BX Tower to control the switches and signals at Collier by direct wire and displaces a presently operated table lever machine. This C. T. C. controlling of the Dunlop functions will replace the present electromechanical interlocking operation at this location. Materials involve additional M-22 electric switch movements, signals, relays, rectifiers and housings. The field work will be done by railroad construction forces.

The CENTRAL OF GEORGIA has placed an order with the Union Switch & Signal Co., covering materials for the installation of centralized traffic control between Payne, Ga., and Forsythe, approximately 20 miles, with the Style C control machine to be located in the dispatcher's office at Macon, Ga. The code line will be arranged for telephone communications between the control office and controlled signal, automatic signal and electric switch lock locations. The Central of Georgia has also placed an order with Union for the materials to be used in the installation of centralized traffic control between Macon Jct. and Payne, a distance of approximately 5.5 miles, with the control machine to be located at Macon Jct., and with the same class of materials to be supplied as in the Payne to Forsythe territory, involving Style M-22A electric switch movements, Style H-2 searchlight signals, Style T-21 hand-operated switches with SL-21A electric switch locks. The field installation work at both these projects will be handled by railroad construction forces.

Supply Trade

Capacity Operation Anticipated by General Railway Signal

Net income of the General Railway Signal Company in 1945 amounted to $1,033,865. In the company's annual report, Paul Renshaw, president, states that the company has a substantial amount of signaling orders on hand which, together with those in prospect, should insure capacity operation during the current year. Because of price control, operations are currently being conducted at a loss, and to alleviate this condition, an application for relief has been filed and is now pending before the Office of Price Administration. None of the company's war plants have been sold but their cost has been amortized in full. The Genesee fire control and turret plants presently are being used for the production of signal apparatus.

Lima Reports Backlog of 199 Locomotives

In his annual report for the year 1945, Samuel G. Allen, chairman of the Lima Locomotive Works, reports that the company completed 250 locomotives in 1945, as compared with 306 in 1944. At December 31, 1945, it had a backlog of 199 locomotives on order, as compared with 154 at the end of 1944. Unfilled orders at the end of the year for locomotives, power shovels and cranes and other products amounted to $36,150,000, compared with $26,868,500 at the close of 1944, an increase of $9,281,500. Most of the locomotives on order are for the railroads of France. Unfilled orders for power shovels and cranes are practically equivalent to the total sales of that division during 1945.

Mr. Allen reported that the war's end brought with it the termination of war contracts for power shovels and cranes and parts therefor amounting to approximately $13,400,000. Later in 1945 a government contract for locomotives amounting to approximately $3,400,000 was terminated. However, the company had a large backlog of other orders for shovels and cranes which, with additional sales made during the following months, represented a volume appreciably greater than the amount of war orders cancelled, with the result that this division's sales were practically equal to that of 1944.

Net sales billed by the company in 1945 amounted to $40,885,911, a decrease of $10,900,550, or 21 per cent under 1944. The operating profit for the year, after deduction of manufacturing cost, selling, administrative and general expenses, but before federal income and excess profits taxes and provision for renegotiation of war contracts, was $5,799,405, compared with $9,284,538 in 1944. After provision for federal income taxes and for renegotiation of war contracts, amounting to $4,550,000, and adjustments of $49,285 applicable to prior years, the net profit was $1,200,120, or $5.68 per share of capital stock outstanding, as compared with $1,436,923, or $6.81 per share, in 1944.

Paul K. Povlsen has been appointed vice-president and general manager of **Maguire Industries, Inc.** He will supervise all manufacturing operations of the company and subsidiaries. Mr. Povlsen has served since 1941 as vice-president in charge of production for the J. I. Case Company of Racine, Wis. He was graduated from Columbia College and the Columbia School of Engineering and had

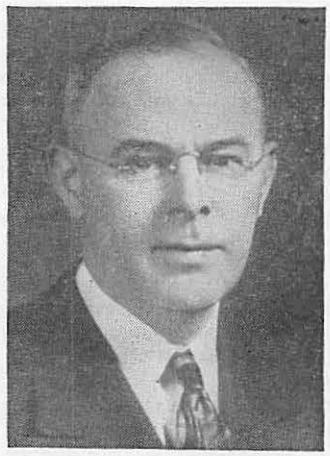
Paul K. Povlsen

been associated with the New York Telephone Company, the New Jersey Bell Telephone Company, the Calco Chemical Company, and the Diehl Manufacturing Company. **Walter B. Scott,** an industrial engineer, who also had been associated with the J. I. Case Company, has joined Maguire Industries as an assistant to Mr. Povlsen. He formerly was associated with the American Can Company.

The **Nathan Manufacturing Company** of New York plans to erect a modern factory in Milford, Conn., which it will occupy with its subsidiary, Nathan Aircraft Devices, Inc.

Robert L. Nutt has been appointed sales representative in the railway supply field, Atlantic seaboard territory, for the **Rust-Oleum Corporation** of Evanston, Ill. Mr. Nutt's headquarters are in the National Bank of Commerce Building, Norfolk, Va.

H. Malcolm Priest has been appointed manager of the railroad research bureau of the four **United States Steel Corporation** subsidiaries serviced by the bureau. He will supervise research and design in the field of light-weight railroad equipment and other mobile structures. The subsidiaries served are the Carnegie-Illinois



H. Malcolm Priest

Steel Corporation, the Columbia Steel Company, the National Tube Company and the Tennessee Coal, Iron & Railroad Co.

After graduating from Massachusetts Institute of Technology in 1912 with a degree of civil engineering, Mr. Priest was employed by the American Bridge Company as a draftsman. He joined the Chicago, Rock Island & Pacific in 1915 as a designing engineer. He was a research engineer during the first world war and later an assistant professor of structural engineering at Purdue University. He returned to American Bridge in 1923 and served as a designing engineer for ten years. He joined the U. S. Steel railroad research bureau in 1933.

C. W. Floyd Coffin, vice-president, has been appointed in charge of foreign sales of the **Franklin Railway Supply Company.** The company has appointed the **Baldwin Locomotive Works** as its exclusive foreign representative.

Tom R. King has been appointed manager of railway sales of the **Hewitt Rubber Corporation,** with headquarters at Chicago, succeeding his father, W. Jerry King, whose death on February 16 was reported in the *Railway Age* of March 2.

Paul V. Miles, formerly assistant sales manager, railroad and illuminating department of the Corning Glass Works, has been appointed western manager of the

Justrite Manufacturing Company of Chicago. Mr. Miles is located in San Francisco, Calif.

Henry J. Helfrich has been appointed divisional sales manager of the Houde engineering division of the **Houdaille-Hershey Corporation.** Mr. Helfrich has been associated with the Houde company since 1938 in the engineering and sales departments.

The **Reynolds Metals Company** has been confirmed as the lessee of the McCook, Ill., government sheet mill for five years with a purchase option. After the housing crisis has eased, the company intends to fabricate aluminum at the plant, principally for the housing and transportation industries.

B. M. Ashbaucher has been appointed manager of the electrical, wire rope and construction materials department of the New York sales office of the **American Steel & Wire Co.**, subsidiary of the U. S. Steel Corporation. **C. W. Meyers** has been appointed assistant manager of the wire rope and construction materials division of the company's general sales department in Cleveland, Ohio, to succeed Mr. Ashbaucher. Mr. Meyers also will continue his duties as special representative to the aviation trade.

George H. Curran, formerly assistant treasurer of the wood preserving division of the Koppers Company, Inc., has been elected treasurer of **D. B. Frampton & Co.,** Pittsburgh, Pa., and its subsidiary, the **Baker Wood Preserving Company,** Marion, Ohio. Mr. Curran has an impressive background in both the tie and treating industry, having started with the Ayer & Lord Tie Co., at Chicago. Since that firm consolidated with the Koppers organization he has been attached to the Pittsburgh office, and for a number of years had held the position he relinquished at the time of taking up his new connection.

John J. Gillis, manufacturers' agent, has been appointed representative in the New England area for the **Warren Tool Corporation** of Warren, Ohio. Mr. Gillis began his business career as superintendent of fence construction for the Spencer Wire Company. He joined the American Steel & Wire Co. in 1914 and subsequently was appointed manager of sales of the Worcester, Mass., district sales office. He returned to Spencer Wire as vice-president and general manager of sales in 1944 and in December, 1945, entered business for himself as a manufacturers' representative, handling products for the hardware and mill supply jobbers trade.

OBITUARY

John P. Landreth, president of the Spring Packing Corporation, Chicago, died suddenly at Phoenix, Ariz., on February 27.

Construction

BALTIMORE & OHIO.—This railroad has awarded a contract for the construction of a bridge in Chicago, at estimated cost of $36,500, and for the construction of another bridge in West Virginia, at estimated cost of $44,000, to the Bates & Rogers Construction Corp.

CANADIAN PACIFIC.—The C. P. R. will construct a new direct steaming plant this year for its Alyth roundhouse at Calgary, Alta. Since the plant will allow the removal of smokestacks from the roundhouse it will permit a reduction in heat loss and elimination of the smoke nuisance. Hot water, and steam at 225 pounds, will be supplied to the locomotives in the roundhouse, to take them outside for lighting up. The plant, which will burn minus three-eighths "bag-dust" coal, will be equipped with chain grate fuel feed, automatic combustion control, forced draft combustion, mechanical fuel conveyors, and a vacuum ash handling system. The boilers will have a hot lime-soda feed water treating plant, which will increase washout interval to 6 months.

CANADIAN PACIFIC.—The Canadian Pacific has announced its intention to build in 1946 a modern passenger station at Owen Sound, Ont. The new station will emphasize functional design and arrangement and include a projection of the ticket office on the track side for improved visibility for the operator and agent. A flat roof with a parapet extending entirely around the structure and an ornamental pylon at one end, on which a flag pole will be mounted, are exterior features. The interior will include a general waiting room, women's rest room, men's and women's wash rooms, ticket office, general freight office with accommodation for the agent, baggage room and express facilities. The main waiting room will be furnished with modern stainless steel tubular-type seats. The ticket wickets will be set in glass block panel. Appointments in the women's rest room will include a settee, individual chairs, a writing table and mirror.

LAKEFRONT DOCK & RAILROAD TERMINAL.—This new company, jointly owned by the New York Central and Baltimore & Ohio, has been authorized by Division 4 of the Interstate Commerce Commission to construct new facilities on the shore of Lake Erie, adjacent to Toledo, Ohio, for handling coal, ore and other bulk materials in connection with lake vessel transportation, the total cost of which is estimated at $15,000,000. The project includes a 2.65-mile line from a connection with the Toledo Terminal to the lakefront, 26-track receiving and departure yards with a capacity of about 3,500 cars, load and empty yards adjacent to the water front with a capacity of 900 cars, a car repair yard, engine service facilities, an administration building, and dock equipment consisting of 2 dumpers and 2 ore unloaders transferred from existing facilities owned by the proprietary roads and 1 new car dumper. Total trackage in the terminal and yards will total about 55 miles.

LOUISVILLE & NASHVILLE.—This road has completed plans for an improvement and construction program over the entire system which when completed will cost $1,218,982. The various projects and their individual costs are as follows: Improvement of water station facilities at Mt. Vernon, Ill., $22,000; construction of a spur for a coal company at Nortonville, Ky., $150,000; installation of flashing lights at 10 crossings in Evansville, Ind., $48,400; improvement of passenger station facilities at Nashville, Tenn., $166,429; purchase of additional roadway machines, system, $219,930; purchase of 113 additional motor cars with tops, system, $52,600; installation of electric water station facilities at Lebanon Junction, Ky., $30,000; installation of an acetylene gas plant at Boyles, Ala., $59,178; installation of a new passing track at Ermine, Ky., $21,885; installation of a new industrial lead at Leewood, Tenn., $32,693; construction of a new Diesel repair shop at South Louisville, Ky., $361,372, and the opening of a cut of 140-ft. tunnel at Parkwood, Ala., $54,495.

MISSOURI-KANSAS-TEXAS.—This road has in progress a project of raising 9,700 ft. of main line across the North Canadian river, an average of three feet, near Eufaula, Okla., under a contract awarded to the Condon-Cunningham Company, Omaha, Neb. The work includes the construction of 707 linear feet of steel bridging across a new channel which involves the erection of two reinforced concrete abutments and six reinforced concrete piers. The present 422-ft. steel span over the old channel is being raised on the present substructure and will be maintained. The cost of the project will be $540,000, with the contract portion totaling $300,000.

Financial

BALTIMORE & OHIO.—*1945 Results.*—The B. & O.'s net income for the twelve months of 1945, after providing for all interest and fixed charges, was $15,901,401, a decrease of $5,013,037 as compared with the same period last year. Fixed charges, including contingent interest for the year 1945, were earned 1.6 times. Selected items from the income statement follow:

	1945	Inc. or Dec. Compared With 1944
Railway operating revenues	$361,373,218	−$25,819,818
Operating Expenses:		
Maintenance of way and structures	$52,988,212	−$5,420,550
Maintenance of equipment	94,383,142	+15,972,261
Transportation	129,067,475	−1,898,135
Other operating expenses	20,222,717	+939,216
Railway operating expenses	$296,661,546	+$9,592,792
Net revenue from railway operations	$64,711,672	−$35,412,610
Deductions:		
Railway tax accruals	$19,683,602	−$28,969,245
Equipment rents, net	5,833,258	−1,582,171
Joint facility rents, net	2,151,718	−255,910
Net railway operating income	$37,043,094	−$4,605,284
Other income	6,790,888	−950,407
Miscellaneous deductions from income	1,277,531	+157,354
Income available for fixed charges	$42,556,451	−$5,713,045
Fixed charges	26,655,050	−700,008
Net income	$15,901,401	−$5,013,037

CHICAGO, AURORA & ELGIN.—*Reorganization.*—Following the failure of the Illinois Commerce Commission to file any objections or suggestions, the reorganization plan for the Chicago, Aurora & Elgin was approved on March 4 by Federal Judge

John F. Barnes at Chicago. In approving the reorganization, Judge Barnes over-rode the opposition of the Securities and Exchange Commission to a voting trust of three to five years which was part of the plan.

In the plan, approximately $8,000,000 in unsecured claims and another $7,000,000 in stock holdings are "frozen out." The plan, submitted by Arthur L. Schwartz, trustee, lists the total assets of the line, after priority claims and administrative costs, as less than $3,088,456, the total amount of principal and interest on the first mortgage 5 per cent bonds.

The plan allows participation by the refunding mortgage bonds, having a total value of $7,990,140, to the extent of $1,695,000, the amount pledged by the first mortgage 5 per cent bonds at the time the refunding bonds were issued. Judge Barnes directed the trustee to send the plan to participating security holders for approval or disapproval, and set April 30 for a hearing on whether or not the plan was confirmed. The new company will issue 500,000 shares of common stock under the plan, to be apportioned among the first mortgage 5 per cent bondholders of the old corporation.

DELAWARE & HUDSON.—*Maturity Extension.*—This company has asked the Interstate Commerce Commission to approve an arrangement under which the date of maturity of $10,000,000 of Albany & Susquehanna first consolidated 3½ per cent bonds would be extended from 1946 to 1971, the interest rate thereon to be 2¾ per cent per annum. This arrangement is expected to facilitate the early retirement of other underlying bonds carrying a higher interest rate.

DELAWARE, LACKAWANNA & WESTERN.—*Control of Leased Line.*—This company has applied to the Interstate Commerce Commission for authority to purchase at $75 per share 16 shares of the stock of the Morris & Essex Extension. This, with the 1,097 shares already held, will give it control of that 1.92-mile line, now operated under lease, through ownership of 50.36 per cent of the stock outstanding.

DETROIT, TOLEDO & IRONTON.—*Refunding.*—This company has applied to the Interstate Commerce Commission for authority to issue $9,626,000 of series B first mortgage bonds due in 1976, the interest rate to be determined by competitive bidding. The proceeds are to be applied to the redemption of 107½ of an equal principal amount of series A 4 per cent first mortgage bonds outstanding, due in 1967. An additional $1,000,000 of the series A bonds held in the company treasury would be exchanged at the same time for the same amount of series B bonds.

KANSAS CITY SOUTHERN.—*1945 Results.*—The K. C. S. has reported the following operating statement for the year, 1945:

	1945	Inc. or Dec. Compared With 1944
Railway operating revenues	$2,250,931	−$994,542
Railway operating expenses	1,529,031	−499,541
Net revenue from railway operations	$721,900	−$495,001
Federal income taxes	60,000	−240,000
Other taxes	125,000	−50,000
Railway operating income	$536,900	−$205,001
Equipment rents—net debit	108,637	−83,622
Joint facility rents—net debit	4,741	+2,364
Net railway operating income	$423,522	−$123,743

LITCHFIELD & MADISON.—*Refinancing*—Division 4 of the Interstate Commerce Commission has authorized this company to issue a 10-year installment note not exceeding $658,000, pursuant to an agreement with the Boatmen's National Bank of St. Louis, Mo., to mature in 10 equal annual installments. The proceeds will be applied to the redemption at 102 of $658,000 of outstanding first-mortgage 5 per cent bonds. The note will bear interest at the rate of 2½ per cent a year, payable semi-annually. The road also was authorized to sell $500,000 of 4 per cent preferred stock, consisting of 20,000 shares of the par value of $25 a share and $500,000 of common stock, consisting of 20,000 shares of the par value of $25 a share, to be exchanged for an equal principal amount of outstanding preferred and common stocks.

NEW YORK CENTRAL.—*Trackage Rights.*—This company's leased line, the Peoria & Eastern, has applied to the Interstate Commerce Commission for approval of an extension for another 50-year period of its arrangement for the use of the line of the Peoria & Pekin Union.

SAVANNAH & ATLANTA.—*Bonds.*—Division 4 of the Interstate Commerce Commission has authorized this company to issue $950,000 of 3⅜ per cent first mortgage bonds, due in 1964, the proceeds of which are to be used to retire the unpaid portion of a loan from the Reconstruction Finance Corporation, amounting to $774,000, and for improvements to its property. The new issue has been sold at par to Welsh, Davis & Company of Chicago.

SEABOARD AIR LINE.—*New Company.*—The Seaboard Air Line Railroad has been authorized by Division 4 of the Interstate Commerce Commission to issue 3 shares of common stock so it may take corporate action necessary to issue securities and assume obligations as required by the approved plan of reorganization of the Seaboard Air Line Railway.

SOUTHERN PACIFIC.—*Refunding.*—Division 4 of the Interstate Commerce Commission has granted the Southern Pacific Railroad authority to issue, and the Southern Pacific Company to assume liability for $50,000,000 of series F 2¾ per cent first mortgage bonds due in 1996, sold at 99.52 to Halsey, Stuart & Company and others. The proceeds are to be used in connection with the redemption at 103½ of an equal principal amount of series C 3¾ per cent first mortgage bonds, also due in 1996, which were issued in 1945. A net reduction in interest and other charges to maturity of $17,406,703 is expected to result from the transaction.

Average Prices Stocks and Bonds

	March 5	Last week	Last year
Average price of 20 representative railway stocks	61.77	59.89	51.72
Average price of 20 representative railway bonds	102.48	102.15	95.81

Dividends Declared

Chicago South Shore & South Bend.—Quarterly, 30¢, payable March 15 to holders of record March 1.

Dayton & Michigan.—Common, semi-annually, 87½¢; 8% preferred, quarterly, $1, both payable April 2 to holders of record March 16.

Abandonments

NORFOLK & WESTERN.—This company has applied to the Interstate Commerce Commission for authority to abandon a branch from Narrows, Va., to Bastian, 29.69 miles.

SOUTHERN PACIFIC.—This road and the Southern Pacific Company, lessee, have applied to the Interstate Commerce Commission for authority to abandon a portion of a branch from Kurand, Calif., to Fruto, 11.02 miles.

Railway Officers

EXECUTIVE

George J. Leahy, executive vice-president of the Republic Coal & Coke Co., Chicago, has been elected also president of the Litchfield & Madison with headquarters at St. Louis, Mo., which position has been vacant since the death of John Duncan, Sr., on December 31, 1940. Mr. Leahy first entered railway service in 1909, as a call boy on the Chicago, Milwaukee & St. Paul (now C. M. St. P. & P.), at Minneapolis, Minn., subsequently serving as brakeman, switchman, telegraph operator, station agent and train dispatcher. He served for eighteen months during World War I, in the War Department as telegraph secretary to the Secretary of

G. D. Leahy

War, and later as head of the War Department Telegraph office. Mr. Leahy returned to the Milwaukee at the close of the war, resigning in 1921 to enter the coal business. For two years beginning in 1928, he was assistant to the receiver of the Wabash, Chester & Western (now

a part of the Missouri Pacific System). In addition to his duties as president of the Litchfield & Madison, Mr. Leahy will remain as executive vice-president of the Republic Coal & Coke Co., and as vice-president of the Hickory Grove Mining Company and of the Mariah Hill Super Block Coal Company.

William C. Douglas, assistant general freight traffic manager of the New York Central at Chicago, has been appointed

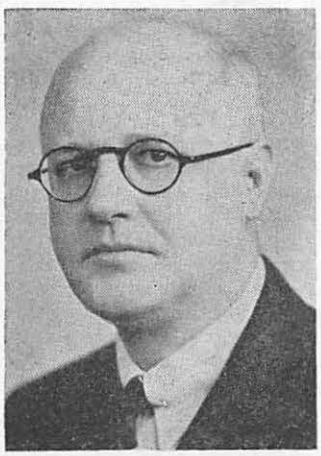
William C. Douglas

assistant vice-president, freight traffic, with the same headquarters, a newly-created position. Mr. Douglas was born at Chicago on February 2, 1880, and entered railway service in September, 1896, as a messenger of the Michigan Central (now part of the New York Central System), at Chicago. He held various minor positions until 1917 when he was promoted to division freight agent, with headquarters at Detroit, Mich., and one year later to assistant general freight agent, with the same headquarters. In 1919 Mr. Douglas was transferred to Chicago, and in 1924 he was promoted to assistant freight traffic manager, with the same headquarters. He became freight traffic manager in 1927, and in 1932, he was advanced to assistant freight traffic manager of the New York Central System, the position he held at the time of his promotion.

George L. Cain, whose appointment as assistant to the president of the Atlantic Coast Line was announced in the February 9 issue of *Railway Age,* was born in South Carolina in 1906, and was graduated from the Citadel (B. A., June, 1928). He entered railroading in August, 1928, in the freight traffic department of the Atlantic Coast Line, serving that department subsequently in various clerical capacities until November, 1936, when he joined the staff of the vice-president, traffic, as a statistician, in which capacity he was transferred to the staff of the vice-president in charge of all departments, then to the staff of the executive vice-president. Mr. Cain was appointed assistant chief clerk to the executive vice-president in October, 1942, and transferred to the office of the president in October, 1942. He was promoted to staff assistant, office of the president, in November, 1944, maintaining this post until his present title became effective on February 1. Mr. Cain's headquarters are at Wilmington, N. C., not at Atlanta, Ga., as was incorrectly reported in the *Railway Age* of February 9.

FINANCIAL, LEGAL AND ACCOUNTING

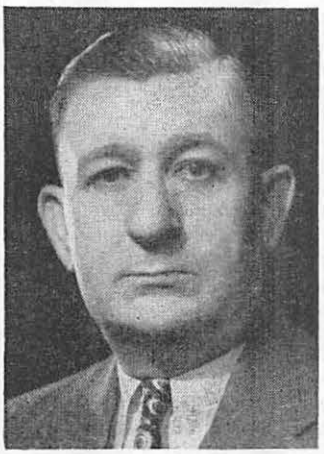
Dana Johnston Caldwell, whose appointment as auditor of receipts for the Piedmont & Northern and the Durham & Southern, with headquarters at Charlotte, N. C., was announced in the February 2 *Railway Age,* was born at Davidson, N. C., and entered railroading in 1912 at Gastonia, N. C., for the Carolina & Northwestern and Southern (joint), serving these companies as warehouse clerk, combination expense clerk, baggage clerk, billing clerk, and transfer clerk, successively. He continued in clerical capacities, serving the Southern at various points from 1914 until 1919, when he left to engage in other business. He reentered railroad service in March, 1920, as chief clerk to freight claim agent of the Piedmont & Northern. In 1932, Mr. Caldwell was promoted to freight claim agent, and in 1937 took on the additional duties of this post for the Durham & Southern. In



Dana Johnston Caldwell

January, 1940, in addition to being freight claim agent, he was appointed assistant auditor in charge of revenues, which positions were abolished when he became auditor of receipts on January 1.

Clifton L. Taylor, whose appointment as general auditor of the Piedmont & Northern and the Dunham & Southern, with headquarters at Charlotte, N. C., was announced in the February 2 issue of *Railway Age,* entered railroading as a switchstand painter, later working as operator at an interlocking plant, and as clerk, ticket agent, cashier, and relief agent for the Southern Pacific. Joining the Fernwood, Columbia & Gulf, he served as clerk in the traffic and accounting departments, train dispatcher, train rules examiner, traveling auditor, and car accountant. He went with the New Orleans Great Northern and the Gulf & Ship Island (both now Gulf, Mobile & Ohio) as an accountant, leaving in World War I to serve with the American Expeditionary Forces in England and France. Mr. Taylor returned to railway service as a clerk and timekeeper for the Illinois Central, then became assistant auditor of freight and passenger accounts for the Fernwood, Columbia & Gulf, and later accountant and statistician for the Carolina, Clinchfield & Ohio (now part of Clinchfield) for a six-year period. He next became field examiner for the Bureau of Accounts, Interstate Commerce Commission, serving in this capacity for 13 years, until he joined the Piedmont & Northern and the Durham & Southern as auditor, in



Clifton L. Taylor

1939. Mr. Taylor maintained the latter position until his advancement to general auditor became effective on January 1.

William J. G. Quinn, statistician of the Southern at Washington, D. C., has been appointed general statistician there, succeeding the late **J. S. Tassin.**

Robert E. Johnson, recently discharged from the United States Marine Corps after more than three years of service, has returned to the Railway Express Agency in his former capacity of attorney.

David I. Mackie, general solicitor of the Delaware, Lackawanna & Western, has been appointed general counsel, succeeding the late **Douglas Swift,** an account of whose career appears elsewhere in these columns. **Rowland L. Davis, Jr.,** assistant general attorney, has been advanced to general attorney, while **Harold J. Gilmartin,** attorney, succeeds Mr. Davis as assistant general attorney.

OPERATING

C. Frank Lingenfelter, assistant to the general manager of the Pennsylvania, with headquarters at Chicago, has retired after 48 years of service.

E. F. Keene has been appointed manager of the Port Richmond terminal of the Reading at Philadelphia, Pa., succeeding **C. W. Mack,** whose promotion is reported elsewhere in these columns.

W. L. King, whose retirement as superintendent of the Southern at Bristol, Va., was announced in the *Railway Age* of March 2, was born on April 11, 1876, at Easley, S. C., and entered the service of the Southern in 1890 as a telegrapher at stations between Atlanta, Ga., and Salisbury, N. C., and at Knoxville, Tenn. In 1899 he was appointed clerk to the chief dispatcher at Charlotte, N. C., and subsequently served there as dispatcher, chief

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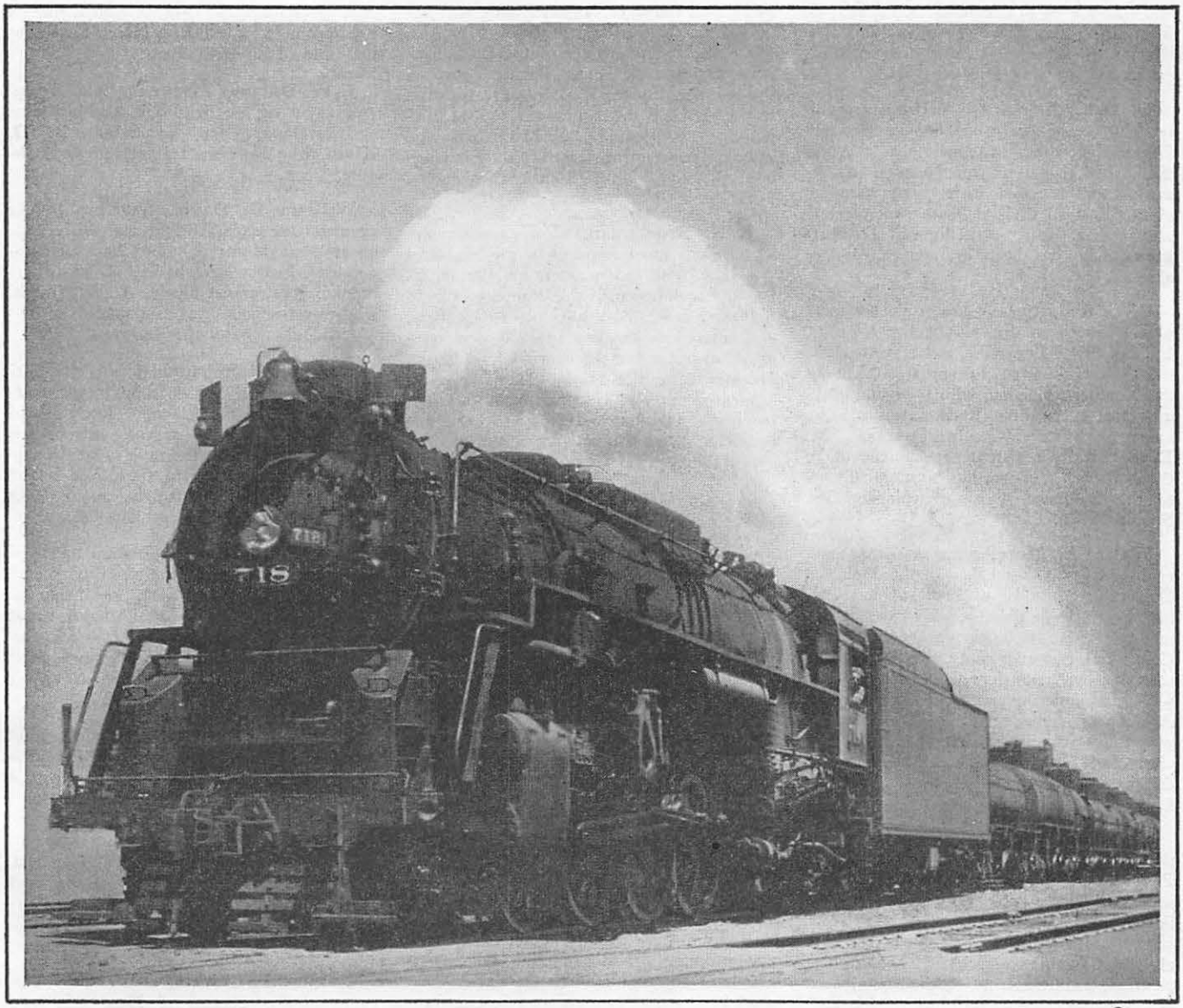

to replace inadequate motive power

In wartime emergencies the railroads mobilized every locomotive that could be kept in service. But now inadequate motive power cannot cope with steadily increasing demands for service.

Efficiency and economy of operation call for the most modern types of locomotives, like this Nickel Plate Lima-built 2-8-4, capable of handling heavy freights on long runs at sustained high speeds.

LIMA LOCOMOTIVE WORKS LIMA LOCOMOTIVE WORKS INCORPORATED INCORPORATED, LIMA, OHIO

dispatcher, and trainmaster. He was promoted to superintendent at Bristol in 1920, and transferred to Columbia, S. C., in 1921. Mr. King returned to Bristol in 1927, continuing as superintendent there until his retirement became effective on March 1.

O. D. Crill, formerly division superintendent on the Atchison, Topeka & Santa Fe at Marcelline, Mo., who was recently discharged from the armed forces, has returned to the Santa Fe as superintendent of the Eastern division, with headquarters at Emporia, Kan., succeeding **C. D. Notgrass,** who has been granted a leave of absence.

C. C. Shoulty, assistant superintendent of the Southern division of the Chicago, Indianapolis & Louisville, at Lafayette, Ind., has been promoted to superintendent of the Northern division, with the same headquarters, succeeding **J. R. Stemm,** who has retired after 59 years of service. **M. E. Strother,** assistant superintendent of the Northern division, has been transferred to the Southern division, replacing Mr. Shoulty.

Walter L. More, acting assistant general manager, Coast Lines, of the Atchison, Topeka & Santa Fe at Los Angeles, Cal., has been promoted to assistant general manager, with headquarters at La Junta, Colo. He succeeds **Guy R. Buchanan,** who has been transferred to Los Angeles, with jurisdiction over the Albuquerque and Arizona divisions, replacing **F. A. Baker,** who takes jurisdiction over the Los Angeles, Valley and San Francisco Terminal divisions, with headquarters as before at Los Angeles.

L. L. Smith, terminal superintendent on the Chicago, Burlington & Quincy at St. Paul, Minn., has been promoted to division superintendent, with headquarters at Alliance, Neb., succeeding **C. C. Holtorf,** whose death on February 23 is reported elsewhere in this issue. **A. C. McDonald,** terminal trainmaster at Kansas City, Mo., has been advanced to terminal superintendent at St. Paul, replacing Mr. Smith. **Charles W. Dentner,** assistant division superintendent at Sheridan, Wyo., has been promoted to terminal superintendent, with headquarters at Kansas City, relieving **Harry W. Maxwell,** who has retired. **Raymond R. Gavin,** trainmaster at Sheridan, has been advanced to assistant division superintendent, with the same headquarters, succeeding Mr. Dentner.

R. J. Stone, assistant superintendent of the Birmingham division of the Southern at Sheffield, Ala., has been promoted to superintendent of the Mobile division, with headquarters at Selma, Ala., succeeding **F. A. Burroughs, Jr.,** who has been transferred to the New Orleans & Northeastern (part of the Southern System), with headquarters at Hattiesburg, Miss. **E. R. Oliver, Jr.,** trainmaster on the Birmingham division, has been advanced to assistant division superintendent, with headquarters as before at Sheffield, relieving Mr. Stone. Mr. Burroughs replaces **W. H. Oglesby,** who has been transferred to the Alabama Great Southern (also a part of the Southern System), with headquarters at Birmingham, Ala., where he succeeds **O. B. Keister, Jr.,** who in turn has been transferred to the Birmingham division, relieving **F. W. Okie,** whose promotion to general manager, western lines, was reported in the *Railway Age* of March 2. **M. F. Self,** trainmaster of the Cincinnati, New Orleans & Texas Pacific (part of the Southern System), has been transferred to the A. G. S., with headquarters at Birmingham, succeeding **J. P. Mumford,** who in turn has been transferred to the Birmingham division of the Southern, replacing Mr. Oliver.

J. N. Broetzman, whose appointment as terminal superintendent of the Seaboard Air Line, with headquarters at Hamlet, N. C., was announced in the *Railway Age* of February 2, was born in Coblenz, Germany, and entered railroading in 1920 as a telegraph operator for the Florida East Coast. He joined the S. A. L. in 1923 as an operator at Waverly, Ga., advancing to dispatcher at Hamlet, in 1926. There he was promoted successively to chief dispatcher

J. N. Broetzman

in 1935, assistant trainmaster in 1941, trainmaster in 1942, and assistant superintendent in 1944, maintaining the latter post until his current promotion, effective January 10.

TRAFFIC

C. C. Proctor and **Marshall O. Culton** have been appointed general agents of the Akron, Canton & Youngstown, with headquarters respectively at Wichita, Kan., and Seattle, Wash.

Frederick L. Quincy, city freight and passenger agent of the Southern, with headquarters at Columbus, Ga., has been appointed district freight and passenger agent with the same headquarters.

C. E. Heidenburg has been appointed acting general agent (freight) of the Grand Trunk at Buffalo, N. Y., to serve during the illness of **W. G. Downard,** general agent.

C. E. Williams, district passenger agent of the New York, New Haven & Hartford, with headquarters at New Haven, Conn., has been appointed assistant passenger traffic manager at Boston, Mass.

Anton W. Foellger, assistant passenger traffic manager of the New York Central, with headquarters at Chicago, has retired after 34 years of service. A sketch of Mr. Foellger's career appeared in the *Railway Age* of October 20, 1945, at which time he was promoted to the position he held at the time of his retirement.

J. W. Dulaney has been appointed general agent of the St. Louis Southwestern at Cleveland, Ohio, succeeding **R. D. Klein,** who has been transferred to Nashville, Tenn.

William G. Davis, traveling freight agent for the Canadian National, with headquarters at Montreal, Que., has been appointed district freight agent at Sherbrooke, Que., succeeding **J. A. W. Smith,** whose retirement was announced in the March 2 issue of *Railway Age.*

Hays M. Heimbaugh, formerly assistant chief clerk to the assistant freight traffic manager of the Chicago, Rock Island & Pacific, who was recently discharged from the Army with the rank of lieutenant-colonel, has returned to the Rock Island as assistant general freight agent, with headquarters as before at Chicago.

E. S. Smith, general Eastern agent of the Atlanta, Birmingham & Coast with headquarters at New York, has been appointed general agent of the Atlantic Coast Line, not of the Southern, as was inadventently reportel in the *Railway Age* of February 16, with his headquarters at Washington, D. C.

James C. Beene, formerly assistant general freight agent of the Reading, has returned from three and one half years of United States Army service as a colonel in the Transportation Corps and has been appointed foreign freight traffic manager of the Reading at Philadelphia, Pa. **Charles W. Mack,** manager of the Port Richmond terminal at Philadelphia, has been named general foreign freight agent there.

Thomas F. Clarkin, district passenger agent of the Central of New Jersey at New York, has been appointed assistant general passenger agent, succeeding **H. E. Yerkes,** whose photograph appears elsewhere in these columns, together with a biographical account of his career in railroading. **Gregory J. Speicher,** recently discharged from the United States Army as a captain in the Transportation Corps, and formerly traveling passenger agent at Scranton, Pa., for the Jersey Central, has been appointed to succeed Mr. Clarkin as district passenger agent at New York.

The Atlantic Coast Line has announced the following appointments in the traffic department: **W. E. Dempster** has been named general agent at Boston, Mass. **Thomas Fuller,** recently returned to A. C. L. service after five years in the United States Army Transportation Corps, during which he rose to the rank of colonel and served both in Europe and the Pacific, has been appointed general agent at the newly-created Tallahassee, Fla., office. **H. E. Shepard,** division freight agent, has been advanced to assistant general freight agent, with headquarters as before at Jacksonville, Fla. **Paul W. Wright,** former forester with the Tennessee Valley Authority at Norris, Tenn., has been named industrial

News Department continued on next left-hand page

THE MISSOURI PACIFIC

equips ten 2-10-2s with the

FRANKLIN BOOSTER*

To increase the productive capacity of ten of its 2-10-2 locomotives, the Missouri Pacific is equipping them with the Franklin Booster.

The Booster helps these locomotives to start heavy trains and quickly accelerate them to road speed. It assists in maintaining speed on ruling grades.

**Trade Mark Reg. U. S. Pat. Off.*

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forester at Wilmington, N. C., succeeding **J. H. Lines,** who has been advanced to industrial agent at New York.

John A. Hewitt, whose retirement as assistant freight traffic manager of the Pere Marquette, with headquarters at Chicago, was reported in the *Railway Age* of March 2, was born at Saginaw, Mich., on July 27, 1875, and entered railway service in June, 1892, as a clerk on the Pere Marquette. He held various minor positions until July, 1918, when he was furloughed to serve in the armed forces during World War I. In 1919 Mr. Hewitt returned to the Pere Marquette as northwestern agent, with headquarters at Minneapolis, Minn., and five years later he was promoted to general agent at Milwaukee, Wis. In July, 1931, he was advanced to assistant general freight agent at Chicago, and in May, 1945, he was promoted to the position he held at the time of his retirement.

L. R. Challoner and **H. A. Peterson,** assistant freight traffic managers of the Northern Pacific, have been promoted to freight traffic managers, with headquarters

L. R. Challoner

as before at St. Paul, Minn. They succeed to the duties of **W. H. Millard,** who has retired after 37 years of service. Mr. Challoner will have jurisdiction over Minnesota, North Dakota, Montana, St. Louis, Kansas City and Denver territories, while Mr. Peterson will cover Chicago and east and also Texas and Louisiana. A photograph and biographical sketch on Mr. Peterson appeared in the *Railway Age* of January 5 of this year at which time he was advanced to assistant freight traffic manager.

Mr. Challoner was born on June 14, 1891, at Bismarck, N. D., and performed his first service for the Northern Pacific as a water boy with a construction gang in 1903. After completing his public school education in 1910, Mr. Challoner entered the service of this railroad as a chainman in the engineering department. Later he served successively as a freight trucker at the Jamestown, N. D., transfer, and as a clerk and rate clerk, with the same headquarters. In 1914 Mr. Challoner was sent to Bismarck as cashier and in 1916 he was advanced to chief clerk, with the same headquarters. In the following year he was appointed chief clerk in the Billings, Mont., local freight office and in 1919 he was made freight supervisor on freight claim prevention work at Jamestown. In 1924 Mr. Challoner was appointed agent at Fargo, N. D., and two years later he was advanced to assistant general freight agent at St. Paul. In 1928, he was appointed assistant general freight and passenger agent at Helena, Mont., and in November, 1935, he was promoted to the position he held at the time of his new appointment.

Mr. Millard was born at Lincoln, England, on February 2, 1876, and entered railway service on the Pennsylvania in 1897. On April 1, 1907, he was promoted to freight and passenger agent at Houghton, Mich., and on May 1, 1909, he went with the Northern Pacific as a traveling freight agent at Chicago. Mr. Millard was advanced to general agent at Cleveland, Ohio, on January 23, 1922, and on October 1, 1923, he was transferred to Pittsburgh, Pa. He was further promoted to eastern freight traffic manager, with headquarters at New York, on April 1, 1934, and on January 1, 1940, he was advanced to the position he held at the time of his retirement.

C. H. Jens, whose promotion to general freight agent of the Pere Marquette, with headquarters at Milwaukee, Wis., was reported in the *Railway Age* of February 16, was born at Manitowoc, Wis., on October 27, 1884, entered railroad service in January, 1904, as a telegraph operator on the Superior division of the Chicago, Milwaukee, St. Paul & Pacific, going with the Grand Rapids & Indiana (now part of

C. H. Jens

the Pennsylvania) later that year. In January, 1905, he entered the service of the Pere Marquette as telegraph operator and clerk at Manitowoc, and served in various minor positions until 1910, when he became traveling freight agent at Milwaukee. From 1924 to 1931, Mr. Jens served as Northwest agent, at Minneapolis, Minn., being promoted in the latter year to general agent at Milwaukee. On May 1, 1945, he was advanced to assistant general freight agent, the position he held at the time of his recent promotion.

Harry E. Yerkes, whose appointment as passenger traffic manager of the Central of New Jersey at New York was announced in the *Railway Age* of February 23, was born in Haddonfield, N. J., and entered railroading in 1908 with the Reading at Philadelphia, Pa. His career was interrupted for more than two years after he enlisted in the United States Army during World War I as a private. He rose to the rank of second lieutenant and was dis-

Harry E. Yerkes

charged in 1919, after serving more than a year overseas with the 103rd Engineers. Mr. Yerkes joined the Jersey Central in 1920 as assistant chief rate clerk in the passenger department, and served successively as advertising agent and as district passenger agent at Scranton, Pa., then was promoted to assistant general passenger agent in 1931. His advancement to passenger traffic manager became effective March 1.

John F. Whittington, whose appointment as general passenger traffic manager of the Baltimore & Ohio at Baltimore, Md., was announced in the February 16 issue of *Railway Age,* was born on October 29, 1895, at Baltimore and attended Baltimore City College. He entered railroading as an auditor for the B. & O. at Baltimore in 1912, becoming assistant ticket agent at Philadelphia, Pa., in 1914, and transferring to Washington, D. C., in 1916. There he

Gibson Studios, Chicago
John F. Whittington

was advanced successively to traveling passenger agent in 1920, city passenger agent in 1925, and division passenger agent in 1926. In 1930, Mr. Whittington returned to Baltimore as assistant general passenger agent, then was promoted, in 1933, to general passenger agent, with

News Department continued on next left-hand page

PARROTS

In nearly every line of endeavor there are parrot-like beckonings to foresake tried and true procedure in achieving objectives.

The tried and true procedure in reconditioning unserviceable superheater units is to have them remanufactured at our plant where machine-die-forging is used exclusively in reforming new return bends from sound lengths of your old units.

Use the tried and true procedure... the Elesco Service for Remanufacturing Unserviceable Superheater Units.

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headquarters at Cincinnati, Ohio, transferring to New York in 1936. He was appointed assistant passenger traffic manager at Chicago in 1941, maintaining this post until his advancement on February 1. Mr. Whittington serves also as general passenger traffic manager for the West Virginia Transportation Company (B. & O. affiliate).

W. E. Frackelton, whose promotion to general passenger agent of the New York Central, with headquarters at Detroit, Mich., was reported in the *Railway Age* of February 16, was born at Minneapolis, Minn., on July 10, 1888, entered railroad service on April 1, 1909, as a ticket seller on the Michigan Central (now part of the N. Y. C.) at Niles, Mich., and served as ticket agent at various points from 1910 to 1916. In 1917 he was appointed city passenger agent at Detroit, and became agent of the consolidated ticket office in 1919. Mr. Frackelton was promoted to general agent, passenger department, of the New York Central in 1927, with headquarters at Detroit, and served in that capacity until 1937, when he was advanced to assistant general passenger agent at the same place, the position he held at the time of his recent promotion.

William C. Howe, whose retirement as assistant traffic manager of the Denver & Rio Grande Western, with headquarters at Salt Lake City, Utah, was reported in the *Railway Age* of March 2, was born at Fairfield, Ill., on February 19, 1876, and entered railway service on August 1, 1897, as a file clerk on the D. & R. G. W., at Salt Lake City, all of his subsequent career being at that point. He was later advanced successively to car clerk, manifest clerk, revising clerk, baggage agent and in 1901 to depot ticket agent. In 1903, Mr. Howe was promoted to assistant city ticket agent and in 1915 to city ticket agent. From 1919 to 1925 he was out of the service because of ill health, but returned to work in the latter year as city freight agent. Mr. Howe was advanced to commercial freight agent in 1933, and in 1940 he was promoted to the position he held at the time of his retirement.

ENGINEERING & SIGNALING

A. B. Himes, first assistant signal engineer of the Baltimore and Ohio, with headquarters at Baltimore, Md., retired on March 1 after 46 years in railroading.

Vaughn W. Oswalt, supervisor of work equipment for the Southern, with headquarters at Cincinnati, Ohio, has been appointed assistant superintendent of scales and work equipment at Washington, D. C.

G. H. Echols, assistant division engineer of the Atlanta division of the Southern, has been appointed division engineer, with headquarters as before at Atlanta, Ga. **W. H. Moore,** supervisor of work equipment at Charlotte, N. C., has been named assistant division engineer at Atlanta, succeeding Mr. Echols.

George L. Sitton, whose appointment as assistant chief engineer of the Southern, with headquarters at Washington, D. C., was announced in the *Railway Age* of February 9, was born on October 21, 1888, at Anniston, Ala., and was graduated from the University of Tennessee. He began his railroad career in 1907 as a rodman for the Southern at Knoxville, Tenn., where he was subsequently promoted to transitman, and then assistant engineer. In

George L. Sitton

1913, he became assistant roadmaster at Greenville, S. C., and in 1914, roadmaster at Charleston, S. C., advancing during the same year to resident engineer maintenance of way at Richmond, Va. In 1918, Mr. Sitton was appointed engineer maintenance of way at Danville, Va., and in 1924, chief engineer maintenance of way and structures, with headquarters at Charlotte, N. C. He held the latter post until his advancement on February 1.

James B. Akers, whose appointment as chief engineer of the Southern at Washington, D. C., was announced in the February 9 issue of *Railway Age,* was born at Danville, Va., on March 16, 1884, and was graduated from Washington & Lee University. He entered railroading in 1904 as an assistant supervisor for the Southern at Asheville, N. C., where he became levelman in 1905. In 1906 he was appointed transitman at Knoxville, Tenn., advancing to assistant engineer there in 1907 and to

James B. Akers

engineer maintenance of way in 1911. Mr. Akers was named chief engineer maintenance of way and structures, with headquarters at Charlotte, N. C., in 1921, and then was sent to Washington as assistant to the vice-president in charge of maintenance of way and structures in 1924. He was promoted to assistant chief engineer there in 1931, and held this post until his advancement to chief engineer became effective on February 1.

E. C. Vanderburgh, engineer maintenance of the Chicago & North Western at Chicago, has been appointed chief engineer, with the same headquarters, succeeding **B. R. Kulp,** whose death on February 27 was reported in the *Railway Age* of March 2. **L. R. Lamport,** assistant to chief engineer, has been appointed engineer maintenance, succeeding Mr. Vanderburgh. **B. R. Meyers,** office engineer, has been appointed assistant to chief engineer, succeeding Mr. Lamport. **H. W. Jensen,** division engineer at St. Paul, Minn., has been appointed office engineer at Chicago, succeeding Mr. Meyers.

John W. Wallenius, whose appointment as division engineer of the Long Island was announced in the January 26 issue of *Railway Age,* was born in Springfield, Mass., and was graduated from Yale University in 1928. He joined the engineering corps of the Pennsylvania in 1929 at Pittsburgh, Pa., and served as assistant

John W. Wallenius

supervisor and as supervisor in New York, Ohio, Indiana, and Maryland prior to his advancement to assistant division engineer of the Philadelphia Terminal division in 1943. In 1944 he was promoted to division engineer of the Renovo division at Erie, Pa., from which he was appointed to his present post at Jamaica, L. I., (N. Y.), effective January 25.

Bernard Herman, whose retirement as chief engineer of the Southern at Washington, D. C., was announced in the *Railway Age* of February 9, was born on February 5, 1876, at Washington and was graduated from the Massachusetts Institute of Technology in 1899. He entered railway service in 1900 as a draftsman for the Baltimore & Ohio, shortly thereafter joining the Southern as an assistant engineer in the bridge department, advancing to chief bridge inspector in 1904 and to engineer of bridges in 1906. Mr. Herman went with the Cincinnati, New Orleans & Texas Pacific in this capacity in 1909, re-

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OFF TO A GOOD START

180 "LIBERATION" LOCOMOTIVES for French Railways have HSGI bushings

DESTINED for arduous service on France's "blitzed" railroads, these 180 Lima-built locomotives are the first of 700 being built to relieve a serious motive power shortage. It is significant that HUNT-SPILLER valve bushings, cylinder bushings, and valve packing rings were picked to provide high availability and low maintenance for these badly needed locomotives—a logical choice, since most Class I American roads have long relied on HSGI long-wearing parts.

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Valve Bushings	Floating Rod Bushings	Cylinder Snap Rings
Valve Packing Rings	Light Weight Valves	Valve Rings, All Shapes
Valve Bull Rings	Cylinder Liners and Pistons for Diesel Service	

turning to the Southern in 1910 as principal assistant engineer. He was promoted to chief engineer of maintenance of way and structures in 1911 and to assistant to vice-president—maintenance in 1920. In 1924 Mr. Herman was advanced to chief engineer, the position from which he retired on February 1.

MECHANICAL

R. L. Ponton has been appointed general mechanical inspector of the Atlantic Coast Line, with headquarters at Wilmington, N. C.

Laurence C. Bowes, whose promotion to electrical engineer of the Chicago, Rock Island & Pacific, with headquarters at Chicago, was reported in the *Railway Age* of March 2, was born on June 23, 1890, at Minneapolis, Minn., and received his higher education at Cornell University. He entered the service of the Rock Island in July, 1916, as an inspector of stationary boiler plants, serving in this capacity until December, 1922, except for a period during World War I when he was in military service, serving as a private and sergeant overseas. At the end of this period he was promoted to production engineer, and on July 1, 1926, he was advanced to general piece work supervisor. In August, 1936, he was promoted to engineer of shop plants and machinery, the position he held at the time of his new appointment.

Chester K. James, whose appointment as assistant superintendent motive power of the Erie, with headquarters at Cleveland, Ohio, was announced in the February 2 issue of *Railway Age,* was born at Huntington, Ind., on October 16, 1901, and was graduated from Cornell University. He entered railway service with the Erie in 1924 as a special apprentice at Meadville, Pa., advancing to leading machinist there in 1927 and foreman in 1929. He went to

Chester K. James

Kent, Ohio, as roundhouse foreman in 1930, to Jersey City, N. J., as motor equipment inspector in 1933, to Susquehanna, Pa., as master mechanic-motor equipment in 1938, and to Buffalo, N. Y., as master mechanic in 1942. Mr. James was promoted to district master mechanic at Meadville in April, 1944, remaining in that position until his advancement to assistant superintendent of motive power became effective on January 16.

PURCHASES AND STORES

Roy D. Long, general purchasing agent of the Chicago, Burlington & Quincy, at Chicago, has been promoted to director of purchases of the Burlington System, including the Colorado & Southern, the Ft. Worth & Denver City and the Wichita Valley, with the same headquarters. **Joseph P. Blum,** assistant purchasing agent, has been advanced to purchasing agent of the Burlington, with headquarters as before at Chicago, succeeding to the duties of Mr. Long.

OBITUARY

George R. Bierman, district passenger agent of the Union Pacific, with headquarters at Chicago, died at his home in that city on March 3.

J. B. Hunley, consulting engineer on the New York Central, lines west of Buffalo, with headquarters at Chicago, died in a hospital in that city on March 2.

Reginald Mudge, retired assistant engineer of track for the Canadian Pacific, died at Montreal, Que., on February 10. Aged 61, he had been retired since 1943, after 36 years' service for the Canadian Pacific.

C. C. Holtorf, division superintendent on the Chicago, Burlington & Quincy, with headquarters at Alliance, Neb., died in a Rochester, (Minn.), hospital on February 23.

Douglas Swift, vice-president and general counsel of the Delaware, Lackawanna & Western, whose death on February 16 was reported in the *Railway Age* of March 2, was born on April 26, 1882, at Cuba, N. Y., and was graduated from Cornell University (A. B., 1904). He entered railway service in 1907 as a member of the legal staff of the D. L. & W., advancing successively to assistant commerce council in 1909, commerce counsel in 1915, and general attorney in that same year. Mr. Swift served as solicitor of the D. L. & W. from 1918 through 1920, during federal control of the railroads, subsequently reassuming the office of general attorney. He was named vice-president and general counsel on January 1, 1939.

Clarence R. Smith, auditor and general freight agent of the Cambria & Indiana, with headquarters at Philadelphia, Pa., died there on February 25. He was born on March 8, 1881, at Holland, Ohio, and entered railroading in 1898 in the accounting department of the Columbus, Sandusky & Hocking (now jointly owned by the Pennsylvania and the New York Central) at Columbus, Ohio. He went with the Zanesville & Western (now New York Central) there in 1902 as general bookkeeper, then with the Kanawha & Michigan (now New York Central) in 1908, subsequently serving at Columbus and at Charleston, W. Va., as general bookkeeper and chief clerk. Remaining at Columbus, from 1915 to 1920, Mr. Smith was chief clerk in the accounting department of the Toledo & Ohio Central, Kanawha & Michigan, Zanesville & Western, and the Kanawha & West Virginia (all now part of the New York Central System), advancing to assistant auditor of these companies in 1920. In 1922, he joined the Cambria & Indiana in the posts which he held at the time of his death.

Burr R. Kulp, chief engineer of the Chicago & North Western, with headquarters at Chicago, whose death on February 27 was reported in the *Railway Age* of March 2, was born at Duncannon, Pa., on December 16, 1883, and was graduated from Rensselaer Polytechnic Institute in 1905. Mr. Kulp obtained his first railroad experience as an instrumentman on the Galena division of the North Western. Later he was advanced to draftsman and to assistant engineer of maintenance on that division, and in 1909 he was transferred to terminal improvement work at Clinton, Iowa. During 1910 and 1911 he served as assistant engineer on yard improvements

Burr R. Kulp

at Proviso, Ill., and in 1912 he was promoted to division engineer of the Ashland division, at Antigo, Wis. Mr. Kulp was appointed trainmaster on the Southern Illinois division, at Benld, Ill., in 1917, where he remained until 1918, when he was transferred to the Galena division, at Chicago. In 1920 he returned to the engineering department as division engineer of the Madison division, where he remained until May 1, 1931, when he was promoted to principal assistant engineer. Mr. Kulp was further advanced to engineer maintenance, with headquarters at Chicago on January 1, 1936, and in April, 1940, he was promoted to the position he held at the time of his death.

THE BALTIMORE & OHIO has published a brochure containing reprints of advertisements from its "tribute to industry" series. The purpose of these eleven advertisements, which appeared in the Saturday Evening Post, Fortune, Forbes, Nations Business, and U. S. News during 1944 and 1945 was, in the words of R. B. White, president of the B. & O., "to give the American public a better understanding of the amazing achievements forged by industry during World War II". The series covered the coal, oil, steel, food, rubber, aluminum, chemical, paper, lumber, ore, and glass industries.

IN THE ATOMIC AGE

COMFORT AS NOW SPEED SAFETY

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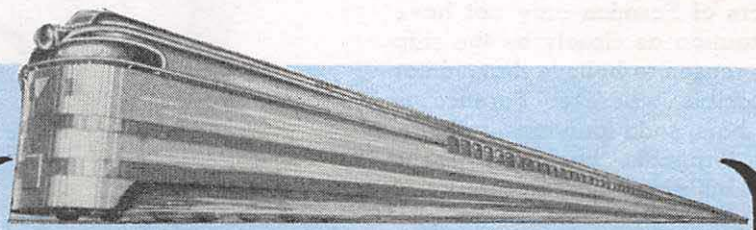
These are the impelling factors in rail travel today and, regardless of the motive power of the future, they're likely to remain so. High speed travel attains new levels in comfort and safety under the control of the modern, electro-pneumatic "HSC" precision brake. Coupled with the traditional safety of air control, are Electro-pneumatic transmission, Speed Governor Control, and "Decelostat" Anti-Wheel Sliding Protection—maximum protection for passengers and equipment.

Most of ordering railroads now specify electro-pneumatic "HSC" brake and many others are including it in their new equipment plans. Where no final conclusions as to future needs are possible it is a good idea to specify "HSC"—it is the answer to the ever-increasing urge to improve schedules.



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Electro-pneumatic—improves schedules with flexibility and smoothness

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"AP" Decelostat—for anti-wheel sliding protection

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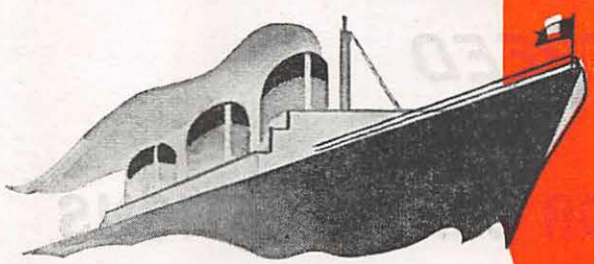

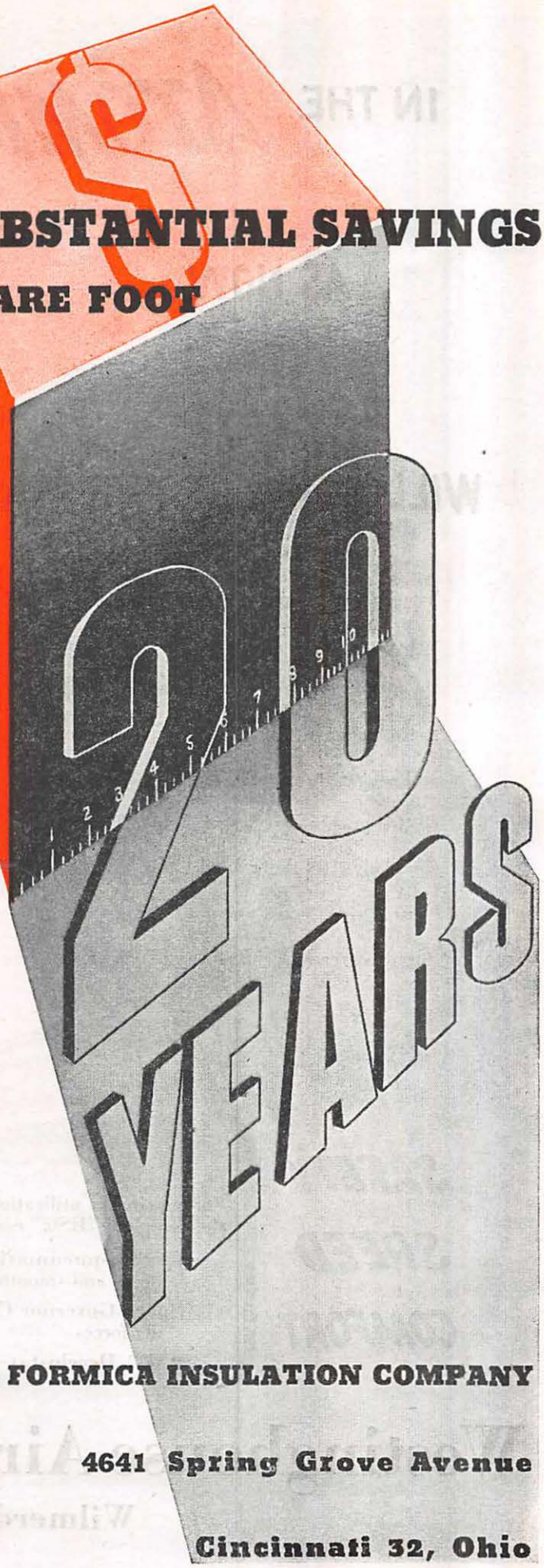

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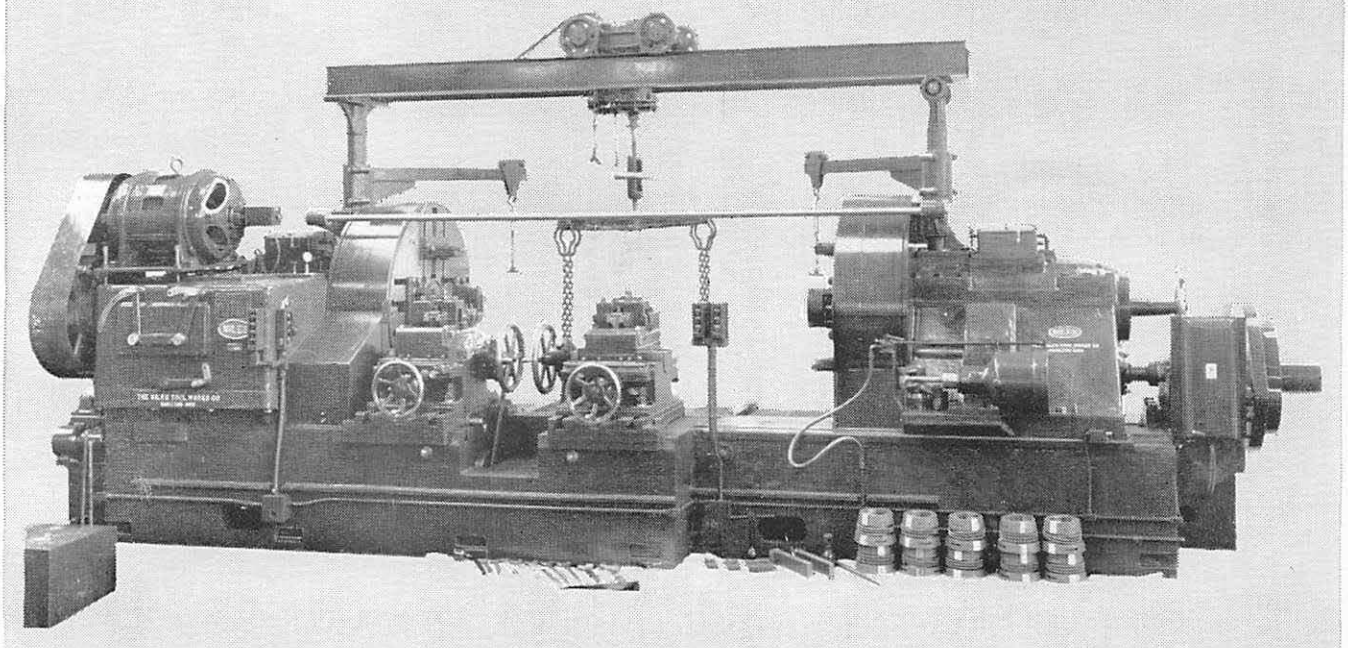

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1. Hardened and ground wear plates under turrets and turret slides.
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4. Gears fully enclosed and automatically lubricated.
5. Machine arranged to handle wheel sets equipped with anti-friction bearings.
6. Steel face plate gears.
7. Anti-friction spindle thrust bearings.
8. Alloy bronze spindle main bearings.
9. Right hand headstock clamp pneumatically operated.
10. Sloping bed to facilitate removal of chips.
11. Capacity: wheels from 26″ to 52″ tread diameter.

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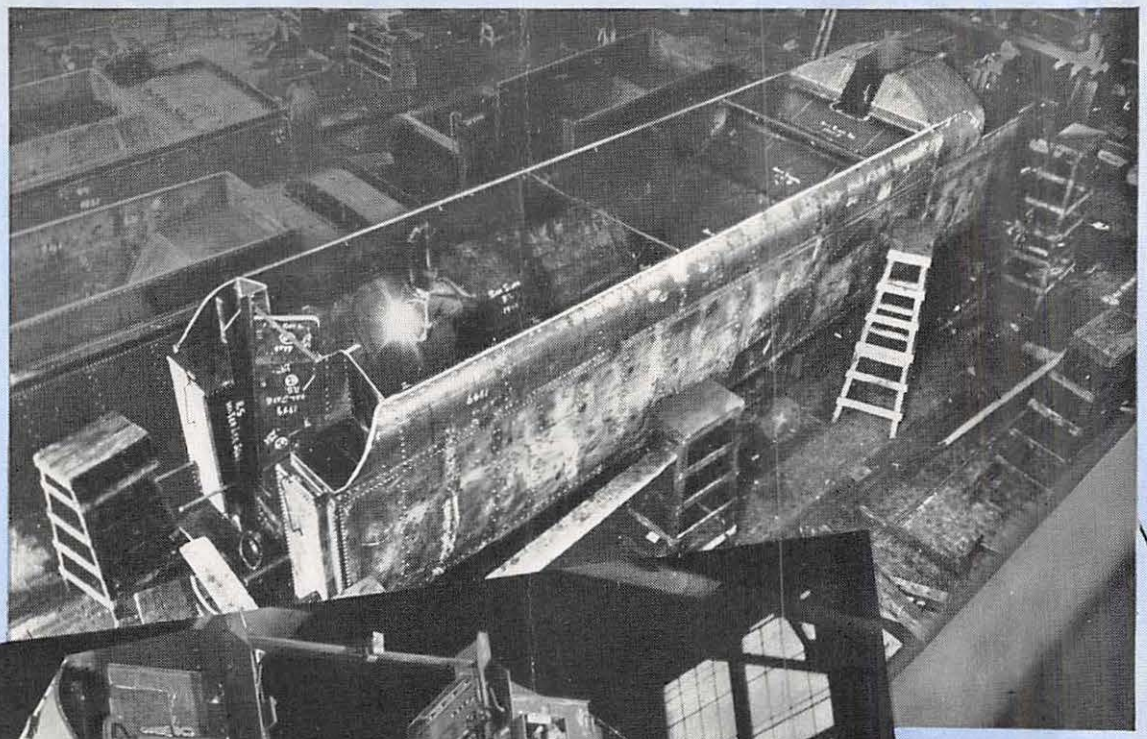

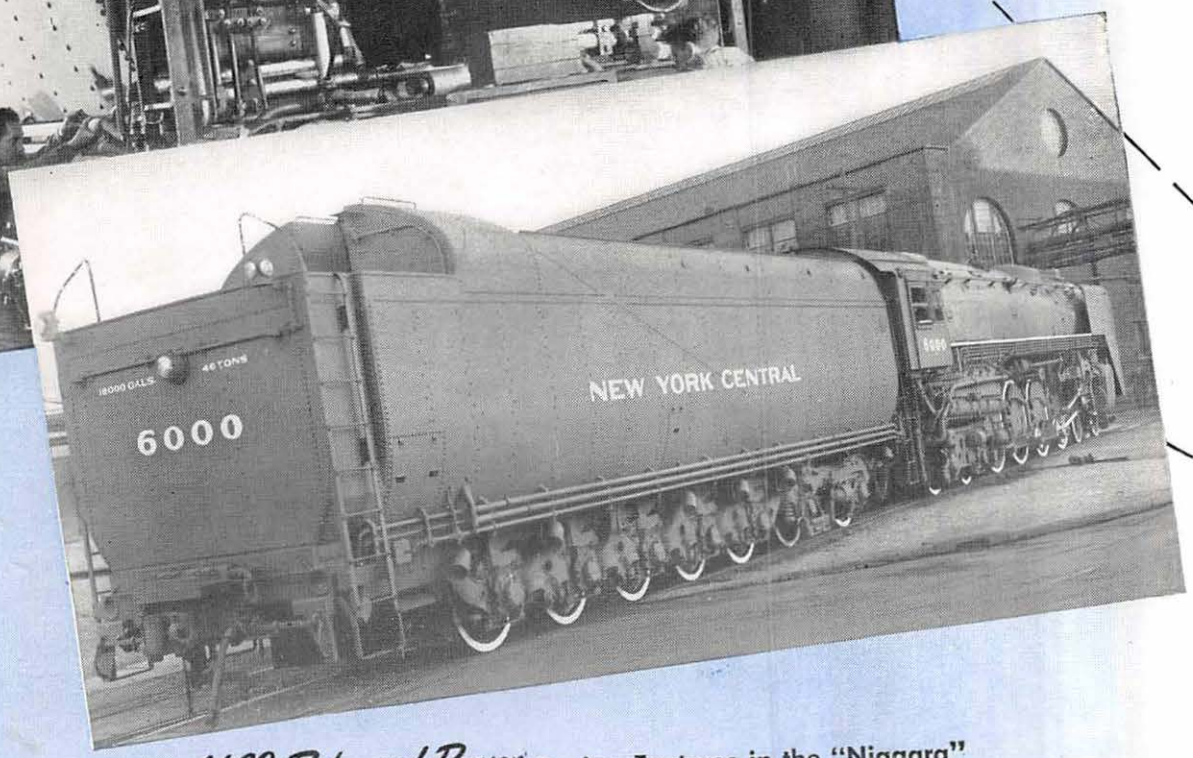

ALCO Balanced Power Design Features in the "Niagara"

Salient features contributing basically to ALCO BALANCED POWER in the "Niagara" include:

ALCO-forged rod and crank-pin assembly.
ALCO-designed boiler.
ALCO-fabricated driving-box assembly.
ALCO-engineered tender.
ALCO tires and spring assembly.

High-Capacity Tender with Water Scoop

A FEATURE OF

"ALCO Balanced Power!"

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COAL capacity: 46 tons. Only one stop for coal is required on the long, fast run between Harmon and Chicago. Water capacity: 18,000 gallons. Provision is made for taking on water while running at 80 miles per hour. Air vents and overflow vents automatically dispose of air and excess water. This is the first 7-axle tender to be equipped with water scoop. Weight distribution on wheel base provides ample safety while keeping within New York Central turntable limits.

Adequacy of this tender to meet the special "Niagara" needs helped make possible the Niagara's remarkable mileage record—52,525 miles during August and September. Average haul: 14 to 15 heavy Pullmans at 56.2 miles per hour over the difficult, 925-mile "Commodore Vanderbilt" run.

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Yes, your passengers will be sure of more riding comfort . . . and you'll be sure of more passengers . . . with clean Hewitt Restfoam mattresses, seat cushions and pillows, because Restfoam is

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FREE! Send today for your copy of "Rest Assured With Restfoam." It tells you all about Hewitt Restfoam — the last word in riding comfort. Hewitt Rubber Corporation, 240 Kensington Avenue, Buffalo 5, New York.

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In connection with new cars now in design, remember that Schaefer can forge body levers up to 52½"—can cut lever weight one-third—show more strength than a solid lever—and, by using our *own* pad structure, take care of all intermediate length variations.

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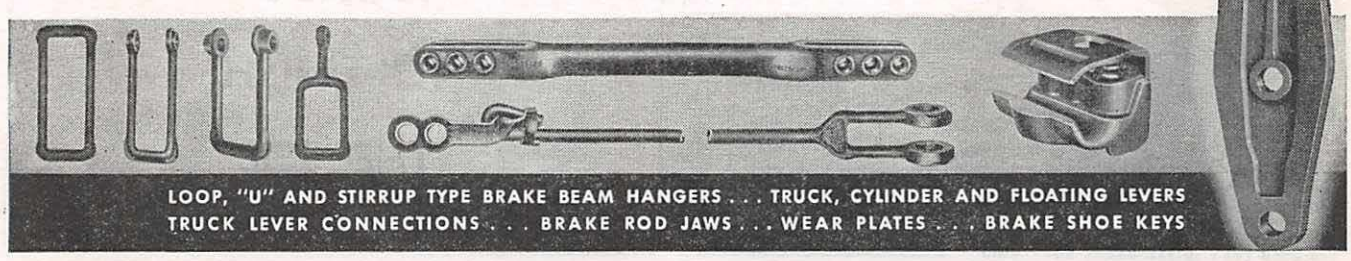

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1—70 Ton, 0-6-0, Switcher, I. C. C. Condition.

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1—70 ton, 0-6-0 Switcher, I.C.C. Condition.

All above locomotives have been repaired and are in good operating condition!

Other Diesel & Steam Locomotives Too!

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IRON & STEEL PRODUCTS, Inc.

41 years' experience

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How could YOUR OWN tank cars?

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These Are Available to You at Close to Pre-War Prices!

Request our prices—"if just out of curiosity"—because there is no obligation.

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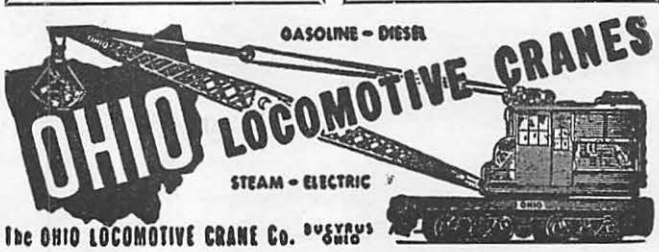

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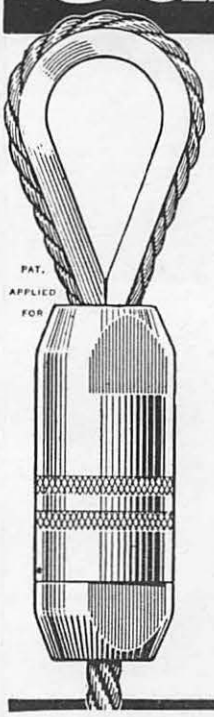

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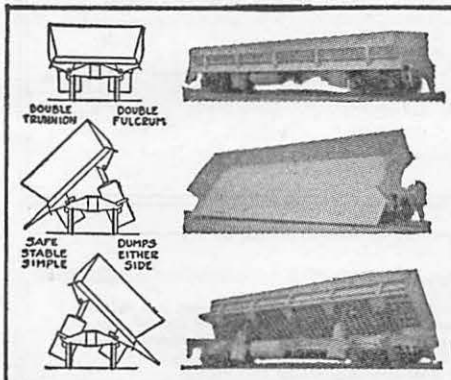

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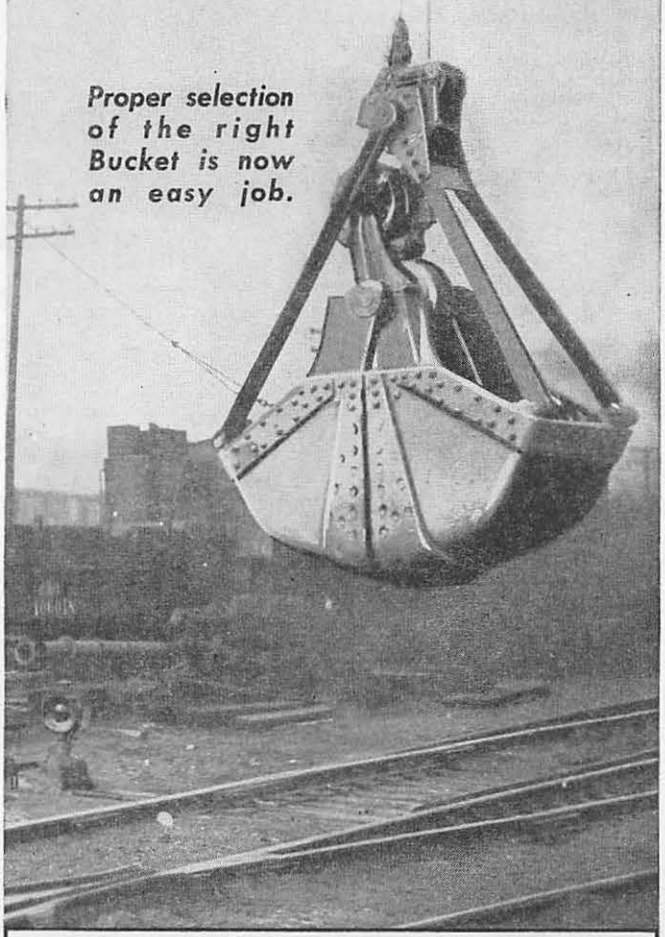

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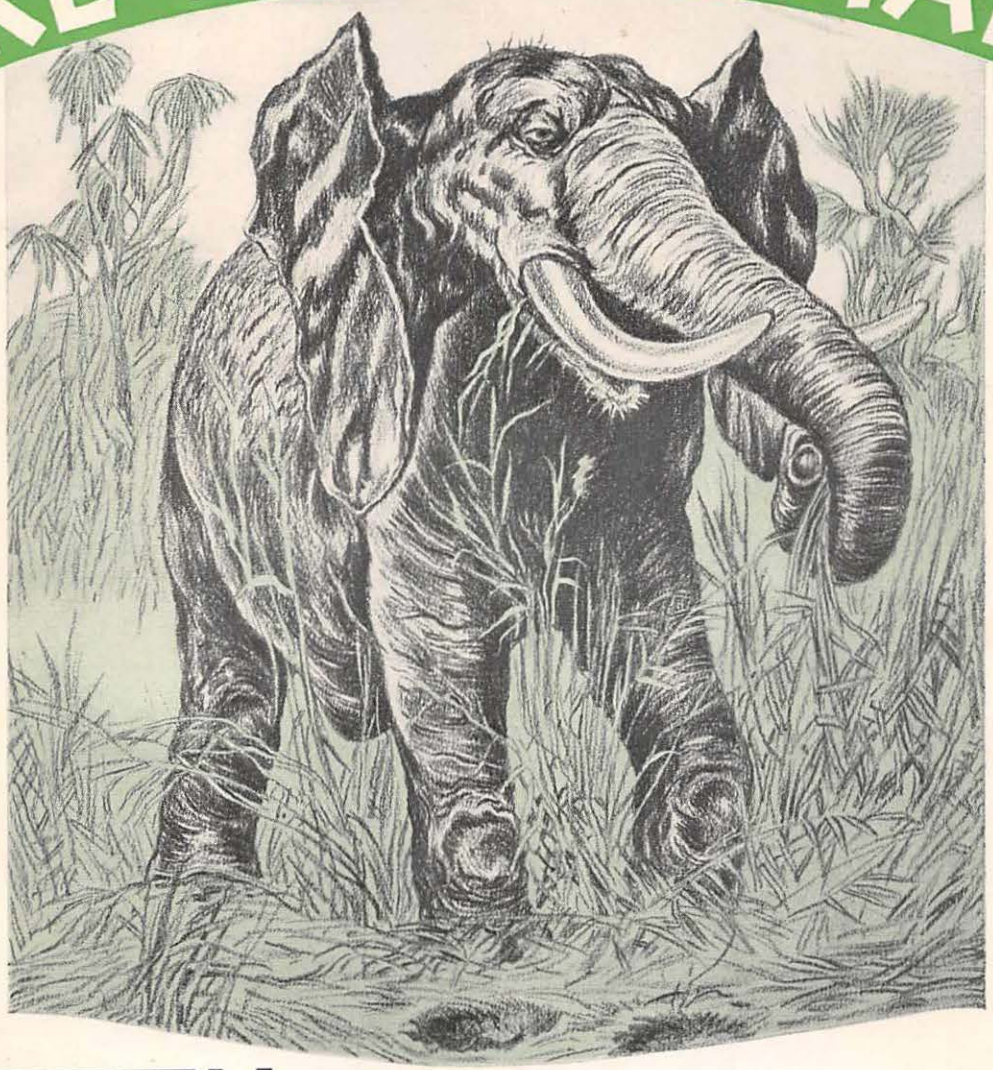

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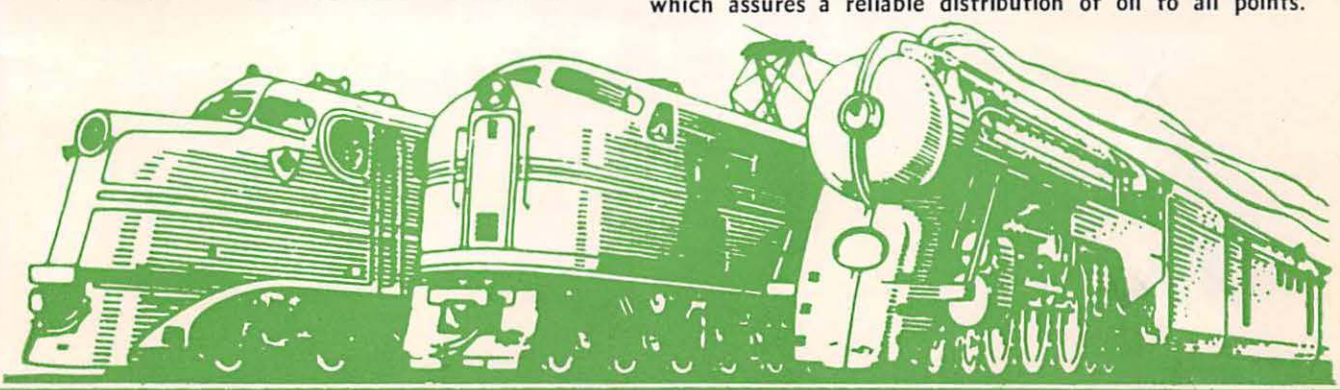

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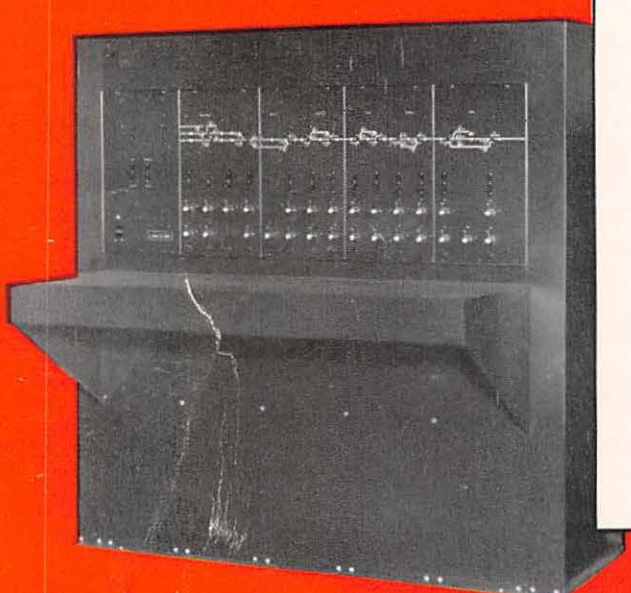
Established 1864

GTC Speeds Delivery of Perishables

A mid-western road finds that one of the outstanding benefits of a recent G-R-S Centralized Traffic Control installation is the early arrival of perishables at the markets. This business is extremely competitive and early deliveries are very helpful in holding and obtaining traffic.

Will **G-R-S Centralized Traffic Control** bring you more business? Our nearest District Office is ready to work out a solution with you.



GRS

GENERAL RAILWAY SIGNAL COMPANY

New York Chicago ROCHESTER, N. Y. St. Louis

A-1508

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